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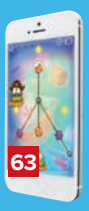
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Premium Reseller

Fix your Mac

When only an Apple Store Genius can do the job

As much as we love our Macs, things do go wrong from time to time. We recently encountered a problem with a MacBook Air. Less than a year old, the laptop started refusing to charge. It had been a bit temperamental for a few weeks – on occasion the light on the power cable would fail to come on when it was plugged into our Mac, a little wiggling usually sorted the problem out and we just ignored it. However, one day with 15 per cent battery left and a lot of work to do, the light failed to come on and the laptop refused to charge.

Our first step was to troubleshoot the problem. We had been plugged into a power strip so we switched it for a wall plug. No change. No charge. We didn't have a spare power cable to test, so our next step was to reset the SMC. The System Management Controller manages battery performance and charging, amongst other things. Unfortunately this didn't fix the problem.

If you encounter a problem with your Mac you may wish to try and fix it yourself, as we did. If that's the case, then our Mac Health Check feature (page 14) will come in handy.

However, if you can't find the answer to your problem, it may be time to go and see a Genius at the Apple Store. You can book your appointment in the retail section of Apple's website. Pop in your postcode, pick the Apple Store that's most appropriate for you, and choose an appointment time; it couldn't be simpler.

On the day of your appointment, it's wise to check in early. When we arrived at the Apple Store in Bluewater with our MacBook Air and faulty power cable there was a member of staff with the sole responsibility of checking in people for Genius appointments. Apparently, it should be possible to check in using the Apple Store app on your iPhone, but we couldn't get that to work. However, the app is the best way to check in as it sends you an alert when the Genius is ready, so you can browse through the store without missing your appointment.



You get between 15 to 20 minutes with your Genius – a bit longer than you get with your doctor

You get between 15 to 20 minutes with your Genius – a bit longer than you get with your doctor. Most problems can be resolved during that appointment. In our case, the Genius got a new power cable from the back, plugged it in and started charging our Mac. He suggested something could have moved in transit, causing the Mac to start charging again, and offered to send our MacBook Air away for testing. This could have taken a couple of weeks, so we just took our chances with the new power lead (which we were allowed to take away for free).

It might be frustrating when things go wrong with your Mac, but what other company goes to quite these lengths to fix it for you? It's yet one more reason why we're Mac.

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What to expect from Apple at WWDC

Apple's WWDC will kick off on 10 June – here's what you should expect to see, and what you shouldn't

BY ASHLEIGH ALLSOPP

On 24 April, Apple announced that its annual Worldwide Developers Conference will take place in San Francisco from 10 to 14 June.

All 5,000 tickets for the event, which cost £1,050 each, sold out within two minutes – a record for Apple. In 2012, it took two hours for the tickets to sell out, and the previous year's tickets sold out in 10 hours. "Enthusiasm for WWDC 2013 has been incredible," Apple wrote on its developer website shortly after the tickets were released. For those developers unable to attend the conference, the company will be posting videos of all of the sessions online during the conference.

What to expect

In a press release, Apple revealed that developers in attendance will be treated to an "in-depth look" at the future of iOS and OS X, which we expect means previews of iOS 7 and OS X 10.9, Apple's next mobile and Mac operating systems, at WWDC 2013. That's despite rumours that say "dramatic changes" in the new mobile operating system may risk putting Apple behind schedule.

In May, Bloomberg cited anonymous sources in a report that suggests Apple design guru Jony Ive has envisioned a major revamp of iOS for the next iteration.

It's been reported that, as a result of an Apple executive shake-up in October that saw former software boss Scott Forstall leave the company, Ive has ordered a major redesign of iOS. This is expected to be "flatter" and will likely see the end of skeuomorphic design elements that Forstall is said to have loved, such as realistic-looking bookshelves and leatherbound calendars.

Bloomberg's sources said that Ive has also been "exploring more dramatic changes" for the calendar and email apps in iOS. These significant changes mean that engineers are "racing" to finish iOS 7 in time to preview it at WWDC.

Other reports from publications across the web, including AllThingsD, *Wall Street Journal* and 9To5Mac, agree that Apple is working on a complete redesign for iOS 7, which could include brand new native app icons.

Morgan Stanley analyst Katy Huberty expects iOS 7 will include a new internet service, such as a mobile payment system that expands upon the Passbook app, or a music streaming service (dubbed iRadio).

Some rumours have suggested Apple may delay the release of OS X 10.9 because it has pulled engineers from the team to help in a final push on the next version of iOS. However, based on Apple's WWDC announcements, we believe we will still get a preview of the new Mac operating system at the event.

KGI Securities analyst Ming-Chi Kuo, who has a strong track record for predicting Apple product launches, has said he believes Apple will unveil updated MacBook Pro and MacBook Air models at WWDC this year, which he expects will feature Intel's Haswell chips.

A new Mac Pro could also be on the cards. (See page 33 for more details.)

What not to expect

During Apple's quarterly earnings call on 23 April, CEO Tim Cook said that Apple is working on "amazing" new products for an autumn launch, adding that Apple will introduce "exciting new product categories" in 2014.

This has led to the conclusion that we're unlikely to see the launch of the next-generation iPhone, dubbed iPhone 5S or 6, any time before autumn, unless Cook has decided that the next handset doesn't qualify as one of the "amazing" new offerings he mentioned. Katy Huberty expects a September launch for the new iPhone. A September event could also be used to unveil an iPad mini with Retina display, according to DisplaySearch analyst Richard Schim. The event is also expected to see the launch of a thinner, lighter iPad 5.

It doesn't look like a bigger iPhone is in the works, though. Tim Cook has said the company won't be launching a larger model until building one doesn't require any "trade-offs" in order to accommodate a larger display.

Read more at bit.ly/12MlyAA



Redesigned Apple unveiled a new logo for WWDC.

Creative Cloud: Reactions and reassurance

We round up reactions and responses following the announcement of Adobe's Creative Cloud-only future

BY ASHLEIGH ALLSOPP

Adobe used its MAX conference keynote on 6 May to announce changes to its software line and Creative Cloud (CC). Moving forward, the company will sell its software solely through subscriptions to CC, which costs £46.88 per month for individuals with an annual membership.

"This is the decision of our company – to focus on CC – and it's huge," enthused Scott Morris, Adobe's senior marketing director. "It's an even bigger decision than when we moved to Creative Suite years ago. In the same way, there will be customers who have a hard time with it at first. But today our customers are on Creative Suite – they got over it; they saw the benefit of it; and that's exactly the type of transition we're going through."

Morris wasn't wrong about some customers having a "hard time" with Adobe's decision to go subscription-only. Following Adobe's announcement, student and photographer Derek Schoffstall started a petition on Change.org demanding that Adobe back away from its new model. The petition collected 10,000 signatures within a week, with commentators pointing out the cost and 'rental' of the software as reasons for their dissatisfaction.

Microsoft has also taken a swipe at the decision. "Unlike Adobe, we think people's shift from packaged software to subscription services will take time," Clint Patterson, director of communications for Office, wrote in a blog post. "We are committed to offering choice – premier software sold as a package and powerful services sold as a subscription."

Of course, there are some customers who think the move to a subscription-only model is a good idea. One reader told us on Twitter he thinks CC is fairly priced, while another, Chris Mayer, tweeted: "Considering how rampant piracy is of Creative Suite apps, the subscription-only path is the only sensible option."



No more CS Adobe's David Wadhwani reveals 'CC' rebranding at the MAX conference.

Reassurance

Adobe executives have been fighting the case for the Creative Cloud. "When you compare the people who've complained about the new model to the people who loved it, it skewed heavily to the new model," argued Morris. "One reason people were resistant to CC is they were afraid we'd raise the price. We have no intention of doing that."

We spoke to Adobe vice president David Wadhwani to discuss the changes. "What we want to do is get this technology in the hands of as many people as we can," he explained. "The way we do that isn't necessarily to take what we're selling now and make it cheaper and cheaper," he added when we voiced our readers' concerns about the price of CC. "However, I think there are opportunities that we can take some of the technology we have now and surface it in different ways that are more affordable and more approachable to a broader set of customers."

The focus on CC means subscribers will have access to new features on regular basis. "We'll be releasing updates as soon as the features are ready," said Wadhwani, noting that he also expects the company to have aggregating points.

He told us Adobe won't be introducing suites for different types of CC users, because it would add a lot of complexity to purchasing decisions. Without suites, CC customers have access to all of Adobe's applications.

"What we're starting to see is more and more of our photography user base get into video, and more graphic designers wanting to learn about web. So as that happens, I fully expect to see more usage of our tools across all of the different elements," Wadhwani said.

Adobe will be rolling out updates to its CC apps on 17 June.

Cook talks earnings, 'surprises' on the way

iPad sales up, Macs flat... Apple reports on Q2 figures and the 'amazing' products coming this autumn

BY LEX FRIEDMAN

As some investors feared, on 23 April Apple reported numbers for its second quarter of 2013 that were worse than its performance in the same quarter a year ago – though the company still saw record sales for the quarter.

The firm posted $43.6 billion (about £28.6bn) in revenue for the quarter – just beating its own estimate of $41 to $43bn – and net profit of $9.5bn. In the same quarter last year, Apple reported $39.2bn in revenue and $11.6bn profit.

Apple's gross margin was down 10 per cent compared to the second quarter of 2012: 37.5 per cent versus 47.4 per cent.

In a conference call with Wall Street analysts, Apple CEO Tim Cook acknowledged that Apple's growth rate has slowed, and that its margins have decreased. Cook pointed out the advantages of 2012, including favourable foreign currency rates and historically low component costs, and notes that the iPad mini is a lower-margin product.

New products coming

Cook expressed disappointment over Apple's recent stock performance, but added: "The most important thing is creating innovative products, which is still in our control." He was optimistic about the future, telling analysts Apple "has some really great stuff coming in the fall and of course in all of 2014".

Cook referred to "amazing" new products in the pipeline for this autumn. "Our teams are hard at work on some amazing hardware, software and services that we can't wait to introduce this fall and throughout 2014," he said.

"We continue to be very confident in our future plans. Apple has many distinct and unique advantages as the only company in the world with world-class skills in hardware, software and services. And, of course, we have a tremendous culture of innovation with a relentless focus on making the world's best products that change people's lives."

In addition to the expected iPhone 6, iPad 5 and iPad mini 2, Cook dropped hints that could refer to the rumoured iWatch and Apple television.

"This is the same culture and company that brought the world the iPhone and the iPad," he said. "And we've got a lot more surprises in the works."

iPhone and iPad

Apple enjoyed record revenue for the March quarter thanks to solid levels of iPhone and iPad sales and the strongest ever quarter for its iTunes Store.

iPhone sales were up seven per cent year on year to 37.4 million units. Apple pointed to comScore numbers showing the iPhone as the top smartphone in the US, with 39 per cent market share.

Asked about smartphone market share, Cook said this sector has always been competitive, but argued that Apple has the best mobile ecosystem by far, and that it plans to keep augmenting it.

As for the iPad, sales soared year on year: 19.5 million were sold in the second quarter of 2013, compared to 11.8 million in that quarter a year ago. That's a jump of 65 per cent.

Apple posted $2.4bn in revenue from iTunes during the quarter, a record tally. According to chief financial officer Peter Oppenheimer, Apple's online emporium of music, movies, books and apps now tops $4bn in quarterly billings, making it the largest digital content store in the world. Apple also claimed that more than 800 apps are downloaded per second from its iOS App Store; year-on-year revenue from app sales doubled in the quarter. According to Apple, 300 million people use iCloud every day.

The Mac

Mac sales remained flat, with just under 4 million sold in the quarter. There was a slight drop year on year, but a minimal one; last year, Apple reported selling 4 million Macs in the quarter. Revenues per Mac were $1,378, which is the highest that number has been since 2008.

The overall PC market was down nearly 14 percent, according to IDC.

Looking forward

For the third fiscal quarter, Apple predicts revenue between $33.5 and $35.5bn, with gross margin between 36 and 37 per cent – which would be down slightly from Q2. The company predicts operating expenses between $3.85bn and $3.95bn.



Gross margins The iPad mini was both hero and villain in the quarter. Apple saw sales of the iPad increase, but profit margins were down, partly due to the low-cost mini model.

Apple asks for loans to pay back investors

Investors throw $52 billion at Apple in $100 billion share repurchase bond offering

BY KAREN HASLAM

During the conference call with analysts at which Apple unveiled its financial results, the firm also announced what it calls "a significant increase" in its stock buyback and cash dividend programmes, as part of its effort to return cash to investors. Apple plans to return $100 billion (about £66bn) to shareholders by the end of 2015: an increase of $55bn on the capital return programme first announced last year.

The programme includes a huge increase in Apple's share repurchase scheme, from $10bn in 2012 to $60bn now. Apple says it's the largest single share repurchase authorisation in history.

Apple says it will increase its quarterly dividend by 15 per cent. The first dividend of $3.05 per common share will be payable on 16 May to shareholders of record by the close of business on 13 May 2013. This compares to previous dividends of $2.65 per share.

Apple says this puts it "among the largest dividend payers in the world, with annual payments of about $11bn".

The firm ended the quarter with $144.7bn in cash, compared to $137.1bn in the previous quarter. The problem is that even with all this cash, paying shareholders is no mean feat. As a result, Apple has decided to reach out to the debt market to offer $17bn in bonds in order to pay money back to investors.

The problem is that even though the company has all this money 'in the bank', only $45bn of it is located in the US. Apple had two choices: it could bring some of its cash back into the US, and pay 35 per cent tax on it; or it could raise $60bn of cash by issuing these bonds.

Given that Apple could lose more than a third to tax if it repatriated the money, it makes more sense for the company to take advantage of what are historically low interest rates on corporate debt, backed by international cash reserves.

Apple's interest rate

Apple has been able to borrow at rates nearly as low as the highest-rated triple-A firms in the world, borrowing $5.5bn for 10 years at an annual yield of 2.415 per cent, three-year debt at 0.511 per cent, five-year debt at 1.076 per cent and 30-year debt at 3.883 per cent.

Although these are good rates, Apple didn't quite qualify for those offered to AAA firms: its debt was rated at AA-plus by Standard & Poor's Ratings Services, and Aa1 by Moody's. That put it just shy of the triple-A rating of companies such as Microsoft, Exxon Mobil and Johnson & Johnson.

So why didn't Apple get a AAA credit rating? S&P said its rating reflects the expectation that Apple will maintain "excellent liquidity and significant net cash", while Moody's blamed Apple's imperfect rating on the "highly volatile industry".



Share and share alike Apple is raising funds so that it can pay money out to its shareholders.

Apple bonds: good investment?

Apple offered investors floating-rate notes that mature in 2016 and 2018 and fixed-rate securities that are due in 2016, 2018, 2023 and 2043, according to a regulatory filing.

Investors know that Apple has the money to pay them back. And depending on the circumstances, Apple bonds could be a better bet than other options, as explained by Sage Advisory Services Mark MacQueen. He told the *Wall Street Journal*: "Apple bonds are a low-risk alternative to Treasury bonds in this yield-grabbing environment."

However, there are still risks. Currently the Federal Reserve is holding rates down to spur economic growth, but that won't last forever. When rates climb, bond prices fall, meaning investors in Apple bonds could lose money.

The potential risks didn't stop people from buying the bonds, however. Investors came from all over the markets; within hours of the bonds going on sale on 30 May, the bankers had enough investors to sell the Apple debt twice over. *Reuters* sources said investors "could barely submit orders fast enough to get in on the deal from Apple, the only major tech company without a single penny of debt on its books".

By midday there were more than $50bn of orders. It was "one of the most hotly desired bond deals Wall Street has ever seen", according to bankers at Deutsche Bank.

Greenlight Capital Fund manager David Einhorn, who caused a stir earlier this year when he sued Apple over legislation that he believed would make it impossible for the company to issue preferred stock to shareholders, praised Apple's stock repurchase plan. "This is a vastly more shareholder-friendly capital allocation policy, than where Apple stood a few months ago," he said.

Apple, tear down that wall

Here are several reasons why the company could – and should – benefit from a little less secrecy

You buy a new iPhone on day one and, due to its new shape and size, you can't get a decent case or connect your new phone to your old accessories. It's a niggling problem, sure, but it's just one example of how Apple could improve our lives by tempering its legendary secrecy.

Prior to the iPhone 5 launch, rumours about its new features abounded. But many consumers – and vendors – didn't see its dock connector in person until launch day. As a result, vendors had to rush to update their accessories, in some instances without adequately testing the products. Clearly at least a handful of vendors were privy to Apple's closely held secret, because a few cases were out around the launch date, but choices (and stock) remained limited for weeks.

Likewise, developers had to head back to the digital drawing board – or suffer the indignity of seeing their apps run with black bars at the top and bottom.

So much disappointment and frustration, all because Apple decided to keep its iPhone changes under wraps.

iWork in secret

That's not the only area into which Apple could let a bit more sunlight fall. According to *Inside Apple* author Adam Lashinsky, many Apple employees work in a vacuum, in "lockdown rooms." But when staffers can't see the whole picture, they can't always make good decisions. Might the launch of Maps have gone smoother if more employees had been able to conduct more real-world testing?

Don Melton, who led the original Safari project at Apple, wrote on his blog that "we operated the project like some CIA black op – with loyalty oaths and all." He recalls how difficult hiring the development team was, "since I couldn't tell them what they were working on until they took the job." The fact that Melton even has to point out that his team wasn't under physical lockdown – the way other groups were and would be – is a bit terrifying from a human resources perspective.

Cross-innovation could help Apple. Remember when iCloud debuted in 2011? It worked beautifully with iOS. With Lion? Not so much. If the iOS and OS X teams had merged back then, we might have been a step ahead of where we are now.

The black market

When you walk into an Apple Store and ask for an in-demand item that's out of stock, don't expect a lot of information. Yes, the store can put in an order, but according to one former employee, that location might not receive the items it requested, since the corporate powers that be decide where units are needed most.

> This seems like a good opportunity for Apple to apply one of its strengths to its stated mission of delighting customers



This lack of information from Apple HQ creates black markets. I was in Singapore in late October 2012– after the iPhone 5 had been officially released there – and I stopped by six or seven Premium Apple Resellers. None could tell me when they would get a shipment of iPhones. Yet they were surrounded by unofficial sellers with plentiful stock – at a hefty markup. In some places, 16GB phones were selling for the equivalent of £814. Apple is not receiving the extra profit on those sales, and such price gouging only frustrates even the most dedicated Apple fan.

Why not communicate more clearly with consumers and sellers? Apple is said to have the best supply chain in the business; this seems like a good opportunity for Apple to apply one of its strengths to its stated mission of delighting customers.

Here comes the sun

Fortunately, Apple may be lifting the cone of silence. In October 2012, the company announced a restructuring that put several executives – Jony Ive, Eddy Cue, Craig Federighi, and Bob Mansfield – in positions to oversee larger groups of developers. If we're lucky, this will, as the press release promises, "encourage even more collaboration between... hardware, software and services teams." We can haggle over whether "even more" is the appropriate phrase to use, but at least Tim Cook seems unafraid to kick down walls and open things up a bit.

There are grounds to be cautiously optimistic that Apple is changing for the better. And that's one secret that should be shouted from the rooftops.

Abbi Perets *started using Macs back when the Apple logo was in colour. She writes about tech, parenting and health, and lives in Israel.*



"Mr Scaife inspired me."

'This is my story'

"At high school I was always trying new business ideas, from running the school tuck shop to toy manufacturing, which was encouraged by my physics teacher, Mr Scaife.

We took my business idea - selling crisps to local offices - to the bank. Armed with a cheque book and a £50 overdraft, I immediately knew I wanted to run my own business.

Leaving the crisps behind me, I now run an industry-leading employee benefits business with offices in London, Australia and New York and thanks to an excellent team we are showing no signs of slowing down.

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Fast fixes for the most common Mac problems

MAC HEALTH CHECK

Nobody ever said the Mac was perfect. (Well, okay, some people do, but you can't take them seriously.) Macs crash, freeze, refuse to turn on or go online, and generally misbehave just like any other computer – though maybe not as often or as severely.

Hence this guide. We'll tell you what to do when apps freeze up, when your Mac slows down, when OS X goes into a kernel panic, when the internet won't work, and when the Trash refuses to empty. Such crises may be rare, but they do occur – and when they do, you want to be prepared.

BY JOE KISSELL & TED LANDAU

ILLUSTRATIONS BY WILLIAM DUKE



TROUBLESHOOTING

CRASHING APPS

Crashes and freezes in OS X happen infrequently, and most of them are easy to resolve. Better still, even though a crash or freeze may have any of numerous causes or symptoms, the same troubleshooting procedure works for most of them.

SEND A REPORT, OR DON'T

Your first step should be to determine the scope of the problem. Is just one program having difficulties, or is the whole system affected?

If an application suddenly quits, it's at least part of the problem. Most crashes trigger an error message. If you see one of these, click *Reopen* to send Apple an automated report with details about your system configuration and what went wrong, as well as to relaunch the program. Or click *OK* to send the report without relaunching the app.

If you don't want to send Apple information about crashes automatically, go to the *Security & Privacy* pane of System Preferences, click the lock icon, and enter your username and password to unlock it. Then click *Privacy*, select *Diagnostics & Usage*, and uncheck *Send diagnostic & usage data to Apple*. After you do that, the options in the crash dialog box will change to Ignore, Report and Reopen; note that your system will send information to Apple only if you click the *Report* button.

SKIP REOPENING WINDOWS

If the program crashes again after you relaunch it, you'll see a message asking whether to reopen the windows that were open the last time. We recommend clicking *Don't Reopen*, because something in one of these may have caused the crash. Either way, as long as the application functions normally from then on, you can go about your business. (If it continues to crash, you should follow the steps on the next page, beginning with *Restart*.)



Sometimes an app freezes but doesn't quit, resulting in the dreaded spinning cursor or, as some call it, the 'spinning pizza of death'

Sometimes, however, an app freezes but doesn't quit. If your symptom is an unresponsive Mac – perhaps featuring a spinning wait cursor, also known as the "spinning beach ball" or, as some call it, the "spinning pizza of death" (SPOD) – you'll need to isolate the cause.

SWITCH TO ANOTHER APP

Try changing to another application – by clicking its dock icon, for example, or by pressing ⌘-<Tab>. If other apps respond, and especially if the SPOD appears only when you hover your cursor over a window or menu belonging to the application that was in the foreground when your Mac stopped responding, try force-quitting that particular program.

One way to do this is to press ⌘-<Option>-<Esc>, select the app in the list that appears, and then click *Force Quit*. (You may need to repeat this once or twice to get the app to quit.) If force-quitting succeeds, relaunch the program. More often than not, that will be enough to bring the application back to life.

If relaunching (or force-quitting and then relaunching) an app fails to do the trick, if none of your apps respond or if the cursor is frozen in place on your Mac's screen, move on to the following steps, performing each one in the

order it appears, until the problem goes away.

RESTART

If you can, choose *Restart* from the Apple menu. If not, force a restart by pressing ⌘-<Control>-<Eject>. (The <Eject> key, if your keyboard has one, looks like an upwards-pointing arrow with a horizontal line beneath it.) If even that doesn't work, press and hold the power button until your Mac shuts down, and then press the power button again to turn your computer back on.

CHECK DISK SPACE

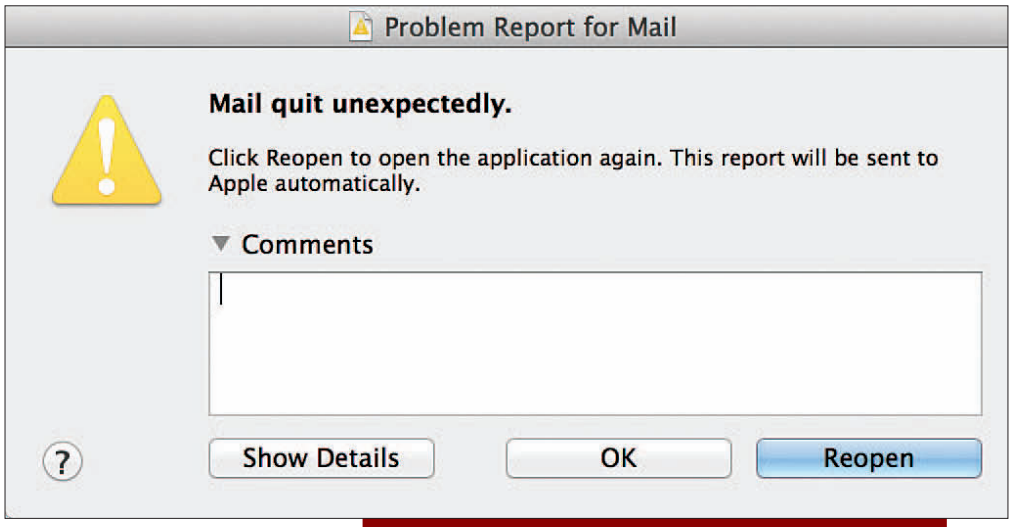
A startup disk that's extremely low on disk space (10GB or less) can lead to slowdowns and worse. Delete some files (or move them to another disk) to free up more space. For help with this operation, see go.macworld.com/drivespace.

TRY ANOTHER DOCUMENT

If an app always misbehaves when a particular document is open, try closing that file and opening a different one. A damaged or corrupted file could be causing the problem.

UPDATE YOUR SOFTWARE

Make sure OS X and any apps you use regularly are up to date. A posted software update may have corrected a crash-producing bug that's bedevilling you. Choose *Software Update* from the Apple menu to update your Apple software, as well as anything you may have downloaded from the Mac App Store. For anything else, either use the app's built-in software update feature or download the latest version.



Send a report Click *Reopen* to relaunch the app and send Apple a crash report; click *OK* to send the report.

DISCONNECT PERIPHERALS

Try disconnecting any new devices you've recently attached one by one. Restart after each disconnection, and see if the problem recurs. If not, the device may be faulty, or (more likely) it may require updated software or firmware. Contact the device's manufacturer for assistance.

DISABLE PLUG-INS

Disable or remove any extensions, plug-ins, or other extras included with the app that's crashing. Try them one by one, to rule out the possibility that the add-on software is the culprit.

TRY A SAFE BOOT

To disable various pieces of software that otherwise load automatically at startup, and to run clean-up processes that may resolve random gremlins in your system, perform a safe boot: restart your Mac, and then, immediately after you hear the startup sound, press and hold the <Shift> key until the grey Apple logo appears on the screen. If the problem goes away, restart normally and try again.

REPAIR YOUR DISK

Disk errors can lead to all sorts of problems, persistent crashes included. To deal with them, try using OS X Recovery and Disk Utility's Repair Disk feature to look for and fix common disk errors.

RUN APPLE HARDWARE TEST

Apple Hardware Test is a special utility you can run to evaluate your Mac's logic board, RAM, graphics board, and other components for errors that could lead to crashes and worse. Apple's support site has complete instructions at support.apple.com/kb/PH11342.

ADD RAM

If your Mac has relatively little RAM (4GB or less) and available slots for adding more, try increasing it. This can speed up operations on your Mac and reduce the likelihood of crashes and hangs related to the system's lack of memory. If you still have crashes or freezes despite trying all of these steps, contact the app's developer or Apple (if the problem is systemwide) for assistance. – JOE KISSELL



Don't reopen If you see this error message, select *Don't Reopen* to avoid having your system suffer another crash.

TROUBLESHOOTING

SYSTEM SLOWDOWNS

It happens to every Mac user sooner or later: The virtual gears inside your computer begin to act as though they're running in a vat of tapioca pudding. No matter what you try to do, your Mac moves at a pace that a snail could run circles around. But before carting the machine off to an Apple Genius Bar, try these fixes.



RESTART YOUR MAC

One of the simplest steps you can take is also one of the most effective. Restarting your Mac cures most slowdowns, because it forces background processes to quit, frees up RAM, and generally lets you begin afresh.

CHECK NETWORK PREFERENCES

For many Mac users, a slow internet connection is synonymous with a sluggish computer. That's because almost everything they do – from surfing the web to checking email – requires internet access. If your online activity is moving at a snail's pace, improving your connection may be the cure.

Do you see a spinning beach ball in Safari when you try to load web pages? Initially it may be unclear whether pages are taking an unusually long time to load or whether your connection is broken. Select *Apple Menu* ➜ *System Preferences* ➜ *Network*. Click *Assist me* ➜ *Diagnostics*, pick your connection type, and click *Continue* to run the tests. If a problem pops up, follow the Network Diagnostics tool's advice for dealing with it.

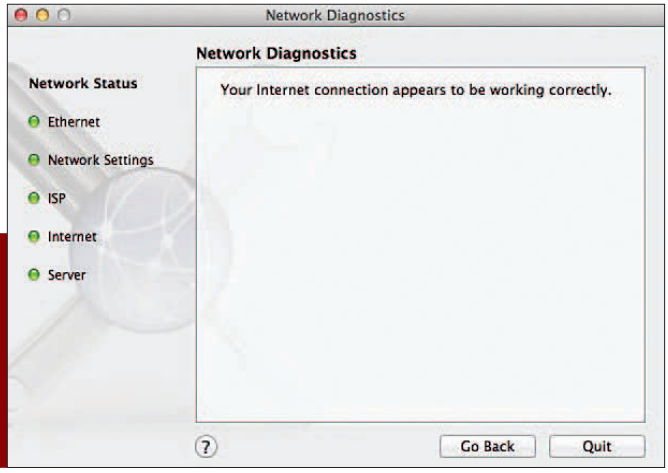
CHECK YOUR INTERNET SPEED

Go to a site that tests internet connection speeds, if you can get the page to load. Options include Speedtest.net and broadbandspeedchecker.co.uk.

You probably pay for certain upload and download speeds, so look at your bill or check with your ISP to see what those speeds are supposed to be. If you detect a slowdown, call your ISP to ask whether it's experiencing general problems that may be affecting you. If so, you'll have to wait for someone else to correct the issue. Alternatively, your ISP may offer to check and perhaps fix your modem connection through remote commands.

TEST YOUR MACS

If you have more than one Mac, test the internet speed on all of them. If the slowdown occurs on only one machine, then the problem probably originates with that computer. That system may, for instance, have an unusually weak Wi-Fi



Health check If Safari is slowing you down, check the health of your network connections.

connection. If so, try turning your Wi-Fi off and then back on: go to the Wi-Fi menu in the menu bar and select *Turn Wi-Fi Off*. Wait a few seconds, and then turn it back on.

DISCONNECT AND RECONNECT YOUR MODEM

Unplug your internet modem, wait for about 10 seconds, and plug it back in. If you have an AirPort Extreme (£139, bit.ly/ZRpGiK) or another separate router, do the same with it. Wait for everything to reboot. Check your speed again. (For more suggestions, see *Can't Get Online* on page 26.)

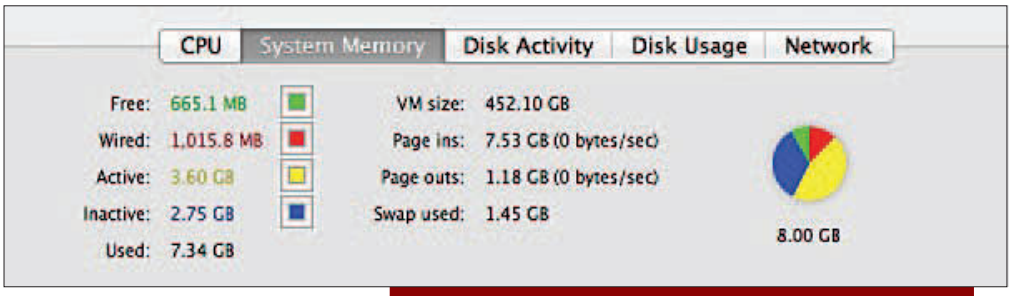
CHECK YOUR DISK USAGE WITH ACTIVITY MONITOR

As noted on page 17 (*Check Disk Space*), to run at a good pace, OS X must have adequate free space on the startup drive. If your Mac's available disk space is near zero, then the system will be sluggish.

One way to check the amount of free disk space on your Mac is to launch Activity Monitor (in the /Applications/Utilities folder of OS X) and click the *Disk Usage* tab at the bottom. Our rule of thumb is that a system should have at least 10GB available (or 10 per cent of the drive's capacity, whichever is smaller). If your Mac's free space falls below this threshold, you should clear some additional space.

SEARCH FOR LARGE FILES

An easy way to locate big files that you may no longer need is to use Spotlight. While you are in the Finder, press ⌘-F, click the *Plus* (+) sign, then the *Kind* pop-up menu, and select *Other*. Choose *File size* from the resulting list, and then click *OK*. Set up the criterion to read *File Size is greater than 500MB*. If nothing of consequence appears when you run that search, select a smaller file size and try again. Or try using a utility such as ld-design's WhatSize (£10.49, bit.ly/ZYScuU). Delete any files you no longer need.



Check memory usage To see whether you're overtaxing your Mac's RAM, consult your system's Activity Monitor.

The simplest way to clean out the cache and log files on your Mac is with a special-purpose utility such as OnyX from Titanium Software

DELETE CACHE AND LOG FILES

Ordinarily, cache files, such as those in the ~/Library/Caches folder, help your Mac run faster. If you delete them as a quick fix, your system will rebuild them later. Log files, such as those in the ~/Library/Logs folder, keep track of past events on your Mac, including past crash reports. Most users never look at these files, so in all likelihood you can delete them without encountering any adverse consequences.

The simplest way to clean out your cache and log files is with a utility such as OnyX from Titanium Software (donationware, bit.ly/UJON2u). Launch it and open the *Cleaning* tab. In your initial pass, delete only items in the User and Logs sections.

It's possible that a bug, such as a 'runaway' log file, may be causing your drive to fill up much faster than it should. If the system's available free space returns to near zero shortly after you clear the files, a bug of this type may be the culprit. If your Mac has this symptom, check the web for possible solutions.

CHECK YOUR CPU USAGE

If the central processing unit of your Mac is overwhelmed by a particular application, everything on your system may slow down.

Launch Activity Monitor, and select *My Processes* from the pop-up menu near the top of the window. Click the *% CPU* column to sort by that criterion.

If an application consistently remains at or near the top of the % CPU list – and especially if it accounts for an atypically high percentage of the CPU's workload (probably anything over 50 per cent, and certainly anything over 80 per cent) – that program may be gumming up the works. To find out, select it and click the *Quit Process* button.

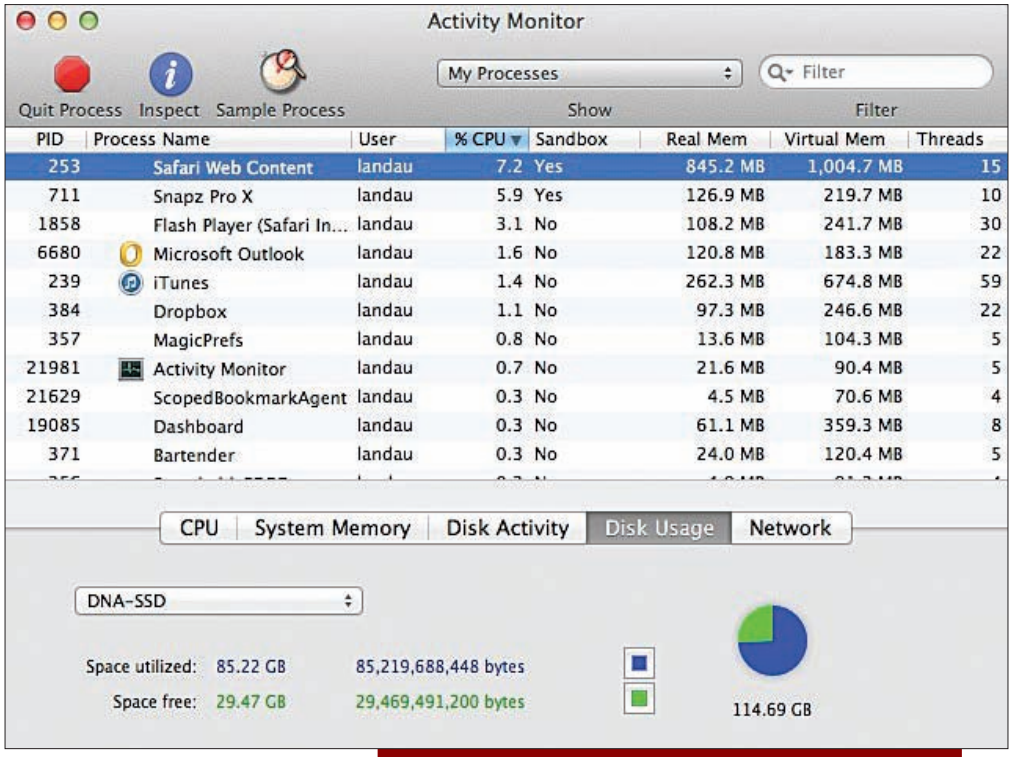
The most likely source of such trouble, by far, is Apple's Safari (and more specifically, a web page that contains Flash). If pages are loading extremely slowly, and if the % CPU figure for Safari and/or Safari Web Content remains high, it's time for you to take action.

To reduce the odds that a Safari slowdown will happen again, minimise the number of web pages that you keep open. You might also try using Google Chrome: if one tab misbehaves in Chrome, you can use Activity Monitor to zap it without bringing down the whole application.

CHECK VIRTUAL MEMORY

Macs depend on a combination of physical and virtual memory. The former uses space on the Mac's drive, while the latter accesses installed RAM chips. Physical memory is faster.

The more heavily your Mac has to rely on virtual memory, the slower it will perform. It



Check disk usage If your system is running out of disk space, it will also be running out of virtual memory.

also creates swap files that grow larger over time. (To find them, select *Go → Go to Folder* in the Finder, type `/var/vm`, and click *Go*.) Swap files can contribute to a system slowdown by using up disk space, but you don't need to delete them manually. Instead, go on to the next troubleshooting option.

QUIT APPS

To improve matters, quit apps you aren't currently using, then restart your Mac. This action clears the swapfiles (among other things).

CHECK MEMORY USAGE WITH ACTIVITY MONITOR

As suggested in *Check Your CPU Usage* (page 19), to investigate memory-usage problems, first launch Activity Monitor. Look under the column headers Real Mem and Virtual Mem. If a program is using a disproportionate amount of Real Mem and Virtual Mem, you can quit it by selecting it in the list and clicking *Quit Process*.

We generally focus on the System Memory statistics at the bottom of Activity Monitor. (Click the *System Memory* tab to see these.) If the 'Page outs' and 'Swap used' values are high (over 2GB, as an approximation) and the amount of memory in the Free listing is approaching zero, insufficient memory is probably contributing to your slowdown.

DEAL WITH PERSISTENT PROBLEMS

When speed and memory problems remain, or soon reappear, one of two things may be responsible.

First, the problem may be a 'memory leak' – a bug that causes a particular app to use excessive amounts of memory. Often a search of the web will confirm this situation and offer further advice. Secondly, your computer may not have enough installed memory to meet your current needs.

If your Mac doesn't already have its maximum amount of memory installed, adding RAM is the quickest way to give it more zip

ADD RAM

We mentioned this option on page 17. If your Mac doesn't already have its maximum amount of memory installed, and if its memory is accessible for upgrades, adding RAM is the quickest and cheapest way to give the system more zip. See Apple's system-specific guidelines for adding RAM to a MacBook Pro (support.apple.com/kb/HT1270), a MacBook (support.apple.com/kb/HT1651), an iMac (support.apple.com/kb/HT1423), a Mac Pro (support.apple.com/kb/HT4433), and a Mac mini (support.apple.com/kb/HT4432).

GET A BIGGER HARD DRIVE

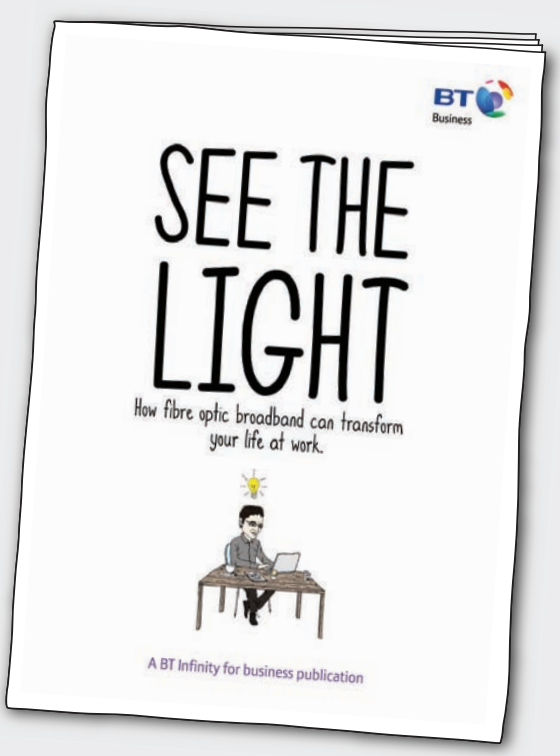
If you continually bump up against your hard drive's space limits, consider either replacing your current drive with a larger-capacity unit or offloading some of your files to an external drive. Shifting from a conventional hard disk to a solid-state drive can speed things up, too. The site iFixit (www.ifixit.com) contains useful step-by-step guides to replacing the hard drive on many Mac models.

BUY A NEW MAC

If you can afford it – and especially if your Mac is more than three years old – your best bet might be to buy a new system. A newer Mac than your current model is likely to have a faster processor, more memory, a larger and faster hard drive, faster ports (such as USB 3.0 in place of USB 2.0), and improved Wi-Fi performance. Add it all up, and it equals no more slowdowns, until the cycle repeats itself. – TED LANDAU

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TROUBLESHOOTING

KERNEL PANICS

Most crashes on a Mac affect just one application. But you may encounter a type of systemwide crash that brings down your entire Mac: a kernel panic. This occurs without warning, and you can't save your work or do anything else without restarting. Furthermore, because kernel panics may be due to different causes, you may have trouble diagnosing the problem and preventing its recurrence.

IDENTIFY IT CORRECTLY

On systems running OS X 10.7 Lion or earlier, kernel panics usually cause the screen to dim from top to bottom; a message in several languages then appears, telling you to restart your Mac (by holding down the power button for several seconds to turn the computer off, and then pressing it again to turn the system back on).

Starting in Mountain Lion, OS X automatically restarts when your Mac suffers a kernel panic; then it displays a message for 60 seconds (or until you press a key) informing you that your Mac restarted because of a problem. (If, however, the kernel panic repeats every time your Mac restarts, OS X will give up after five tries and shut down your Mac.)

As Apple notes on its support page for dealing with kernel panics (support.apple.com/kb/TS3742), something as random and fleeting as malformed network packets can cause a kernel panic. So, if you experience this problem just once, or only rarely, your best bet is to restart the machine, get back to work, and forget about it.



But if you encounter kernel panics frequently (Apple defines this as "more than once every few weeks"), you should take extra measures. The sequence of steps that we recommend here differs somewhat from the one that Apple outlines.

REOPEN YOUR APPS

If you're running OS X 10.8 or later, immediately after your Mac restarts on its own, you'll see a dialog box asking whether to reopen the applications that were open before the crash happened. Click *Open*. If the kernel panic recurs, the likely culprit is one of the running programs, so click *Cancel* the next time around. Either way, another dialog box will ask if you want to see more information and report the problem to Apple. You probably do, so click *Report*. You might not be able to make any sense of the technical details, but glance over them and then click *OK* to send the report to Apple.

If you run into kernel panics repeatedly, you will just have to roll up your sleeves and do some serious troubleshooting to get rid of them permanently.

PERFORM A SAFE BOOT

Restart your Mac and hold down the <Shift> key until you see the grey Apple logo. Taking this action temporarily disables some software that might be causing problems, and it also directs your system to run some cleanup processes. If the kernel panic doesn't recur in this mode, restart your Mac normally.

UPDATE YOUR SOFTWARE

Outdated software is often implicated in kernel panics. Possible culprits include OS X itself and (very rarely) regular

applications. More commonly the underlying problem relates to low-level software such as kernel extensions and drivers.

If you've installed software that works with peripherals (graphics cards, audio interfaces, or the like) or antivirus, file-system or screen-capture tools, check for newer versions. To update OS X, Apple apps, and items purchased from the Mac App Store, select *Software Update* from the Apple menu; for other apps, use a built-in updater or check the developer's website.

UPDATE YOUR FIRMWARE

Software Update may also notify you of available firmware updates for your Mac. If so, be sure to install them. Another option is to check for firmware updates that are applicable to your Mac model at support.apple.com/kb/ht1237.

CHECK YOUR DISK

Make sure your startup disk has at least 10GB of free space. If not, delete some files to make room. Next, you'll want to find and fix any disk errors. Start from another volume, run Disk Utility, select your startup disk, and click *Repair Disk*. If you're running OS X 10.7 or later, restart and then immediately afterwards press and hold ⌘-R to enter OS X Recovery. If that doesn't work, or if you have an older Mac, you can start up from a bootable duplicate of your hard disk or your OS X install media.

If you've added any after-market RAM to your Mac, try turning off your system, removing the additional RAM and restarting

CHECK YOUR PERIPHERALS

If kernel panics continue to plague your computer, shut down the Mac and disconnect everything except the bare-minimum items (keyboard, mouse, and display, if those pieces aren't built in) – including any hardware you've added inside your Mac, such as a graphics card. Then turn your system back on.

If the problem doesn't reappear at this point, shut down your system a second time, reattach one device, and restart. Repeat the process for each device in your setup. If you see a kernel panic immediately after connecting a piece of hardware, that device may be the problem.

CHECK YOUR RAM

Defective RAM can cause kernel panics – and these sometimes manifest themselves only after an interval of time has passed following their installation. If you've added any after-market RAM to your Mac, try turning off your system, removing the extra RAM and restarting. If that operation makes the kernel panics vanish, contact the company that sold you the RAM to see about a warranty replacement.

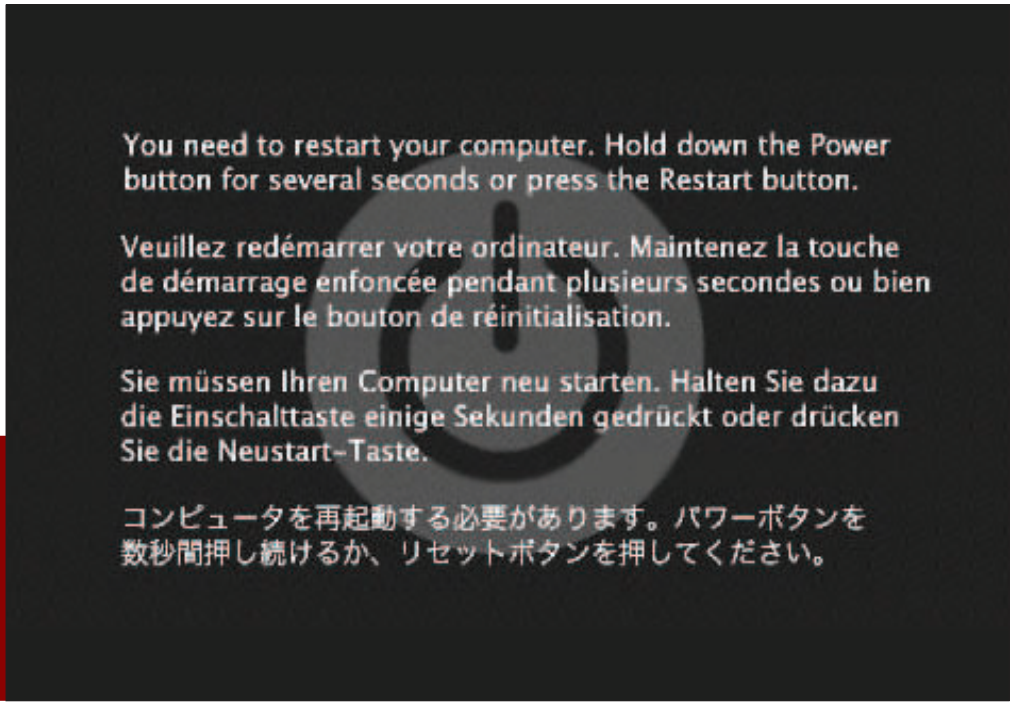
CONSULT A GENIUS

After you've exhausted all of the preceding options, the troubleshooting steps that remain to be tried get more time-consuming – enough so that, if we got to this point with no end in sight, we'd think about making an appointment at the nearest Genius Bar.

REINSTALL OS X

Have a spare hard drive at your disposal? You can try installing a fresh copy of OS X on it, booting from that drive, and running Software Update to ensure that everything on the system you're working with is current. If the kernel panic doesn't occur when you run your Mac from that extra drive, you can be fairly certain that you're dealing with a software issue – in all likelihood some gremlin lurking on your startup disk.

It won't please you to learn that the easiest solution is to start up from another volume (or use OS X Recovery) and then reinstall OS X over your existing Mac. Worse, if that procedure doesn't work, the next step is to erase the disk and reinstall everything from scratch. – JOE KISSELL



Kernel panic in Lion The kernel panic screen looks like this in versions of OS X up to Lion.

TROUBLESHOOTING

MAC WON'T TURN ON

One of the scariest things that your Mac can do, short of emitting actual flames and smoke, is refuse to turn on at all. You press the power button and nothing happens – no startup sound, no light, nothing. If this happens, take a few minutes to perform several straightforward checks before hauling your Mac to the nearest Apple Store for repair. This seemingly intractable problem often has a simple solution.

MAKE SURE IT'S PLUGGED IN

Your first troubleshooting move when presented with a completely unresponsive Mac should always be to ascertain the answer to the classic question: is it plugged in? (You should be aware that failure to ask this question in the critical situation where it would have solved a hardware problem is grounds for Apple Genius disbarment.) To make sure your Mac is getting the power it needs, you may have to trace the entire flow of electricity to your Mac.

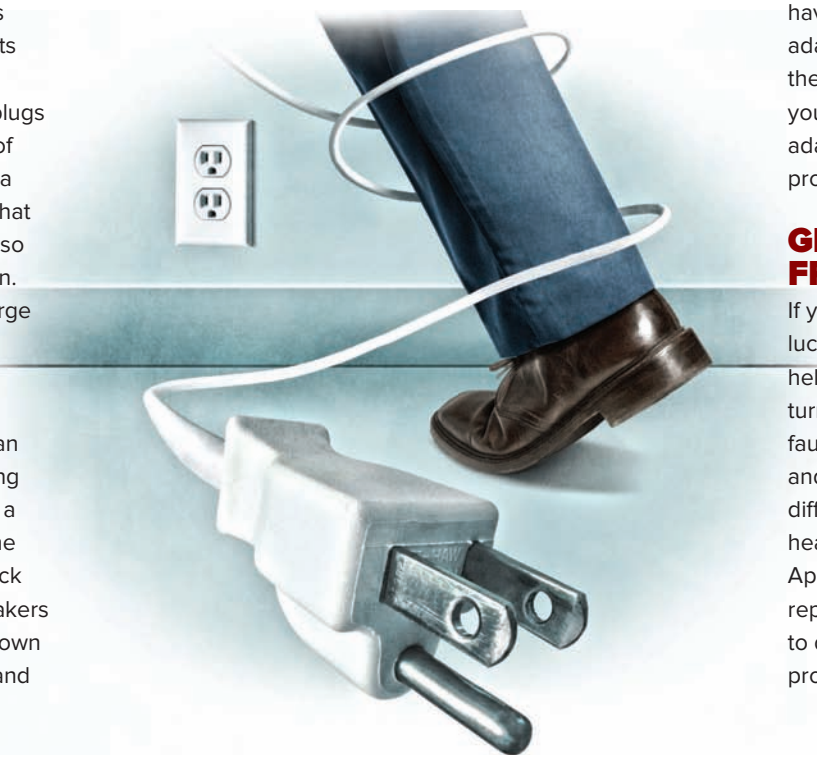
First, check your system's power lead to ensure it's firmly seated at the points where it connects to the computer and where it plugs into the wall. If the flow of electricity goes through a power strip, make sure that the additional piece is also connected and turned on. Also confirm that any surge protectors still work – a power surge might have knocked them off.

You can confirm that an outlet is good by plugging something else, such as a light or a fan, into it. (If the outlet doesn't work, check your fuses or circuit breakers to see if they've been blown or tripped.) If the outlet and all cable connections are working properly, make sure that the lead has no crimps, breaks, or other damage; a snapped wire inside can bring everything to a halt.

UNPLUG EVERYTHING

Once you've established that your power path is good, it's time to shift your focus to your Mac. Unplug everything that you can aside from the power cable, the mouse and keyboard (if those input devices are wired), and the monitor (if it's not built in); then try pressing the power button again. If your Mac turns on, you'll know that one of your peripherals was at fault.

If your Mac *doesn't* turn on, it's worthwhile to attempt to reset the machine's SMC (System Management Controller), a chip that manages various hardware functions, including the operation of the power button. Directions for resetting the SMC vary from one Mac model to another. Apple has posted instructions for specific models; available at support.apple.com/kb/HT3964.



CHECK YOUR POWER ADAPTOR

If you have a Mac laptop, its battery should last through most power outages (from whatever cause), so you may not notice that you have a power-related problem until the battery runs out, at which point your Mac might simply appear to be dead.

So try all of the preceding tips, but also check your power adaptor. If you have an AC cable attached to the adaptor (as opposed to a plug that runs directly into the wall), make sure that the cable is securely connected. If you have access to another AC adaptor, switch to it briefly; if the system works normally, you'll know that the original adaptor is bad; if not, the problem may be in your Mac.

GET HELP FROM THE PROS

If you're still not having any luck, you'll need professional help. We've had Macs fail to turn on for reasons such as faulty logic-board components and blown power supplies, but difficulties of that sort require heavy-duty intervention. An Apple Store or authorised repair centre should be able to diagnose and correct the problem. – JOE KISSELL

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TROUBLESHOOTING

CAN'T GET ONLINE

If your web browser, your email program, or any of a hundred other internet-connected apps on your Mac starts complaining about not having a connection, you may have to do a bit of sleuthing to figure out the source. After all, a disruption anywhere along the chain between your Mac and a distant server could cause an outage, and the right place to look isn't always obvious. We suggest trying each of the following steps, in order, until you're able to connect again.



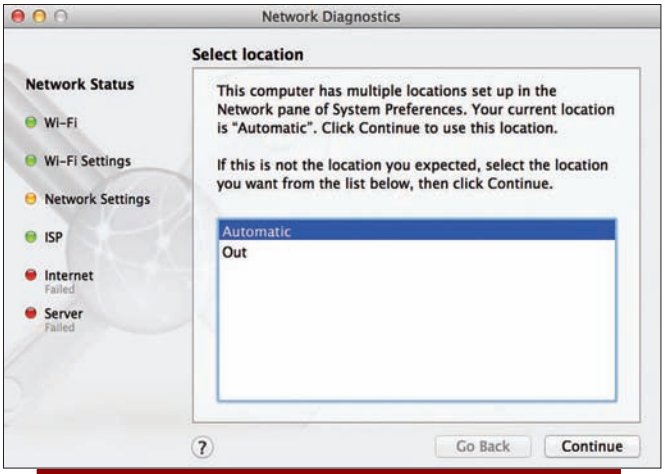
TRY ANOTHER SITE OR APP

To make sure that the problem isn't restricted to one website, try visiting another – preferably one that's reliable, such as Google's home page.

Similarly, to establish that the issue isn't limited to the current application (such as your email program or web browser), try connecting to the internet with another program. If only one site seems to be having issues, visit Down For Everyone Or Just Me (isup.me) and enter the problematic site's URL. The service will tell you whether computers elsewhere on the web can successfully connect to the site. If they can't, at least you aren't alone, though you're out of luck for now.

USE NETWORK DIAGNOSTICS

Certain types of network problems may cause your browser to display a Network Diagnostics button. This behaviour is OS X's way of offering to help debug your connection problem, and we suggest that you accept the help. (If you don't see a button, you can launch Network Diagnostics manually: choose *Apple menu* ➔ *System Preferences* and click *Network*. Click *Assist me*, and then click *Diagnostics*.)



Select location Apple's Network Diagnostics utility starts by analysing each network configuration or location.

The Network Diagnostics utility will guide you through a series of procedures and tests on subjects that range from Ethernet and Wi-Fi connections to network configuration and DNS servers. It takes you through the process for one network configuration, or location, at a time. Sometimes the utility can repair problems itself; but when it can't, it usually provides more-detailed information about the nature of the problem and suggests ways of solving it.

If your Mac connects to the internet through Wi-Fi, check the Wi-Fi menu (at the top right of the screen) to confirm that your system is connected to the intended network. Macs have been known to hop onto less-desirable networks at inconvenient times.

If the menu's icon has an exclamation mark superimposed on it (indicating that it can't successfully connect to any network), try choosing *Turn Wi-Fi Off* from the menu, waiting about 30 seconds, and then choosing *Turn Wi-Fi On*. If that tactic

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Check Wi-Fi In the menu bar's Wi-Fi menu, make sure you are connected to a wireless network.

doesn't work, restart your Mac. Sometimes that simple-yet-seemingly-purposeless action turns out to be the only way to clear certain errors that prevent Wi-Fi from connecting.

TRY ANOTHER DEVICE

If you have access to another computer or mobile device that uses the same Internet connection that your balking system does, check to see if you can connect to a website on that device. If not, you can rule out your Mac as the source of the problem and look elsewhere for a solution.

On the other hand, if the second device can connect to the Internet and your Mac can't, even after you restart it, skip ahead to *Check Your DNS Settings*.

RESET YOUR ROUTER

For network problems that lie outside your Mac, if you own or control the network device that your Mac connects to (such as an AirPort base station, Time Capsule, router, switch, or hub), turn that device off, wait for 10 seconds, and then turn it back on. Wait for the network device to power on completely (in some cases, this may be a multi-step process that takes several minutes); then try connecting again.

If more than one such device is situated between your Mac and the internet – if, for example, you have an AirPort Express connected to a cable modem – start with the device closest to the internet and work your way back towards your Mac, cycling the power on each device as you go.

CHECK YOUR DNS SETTINGS

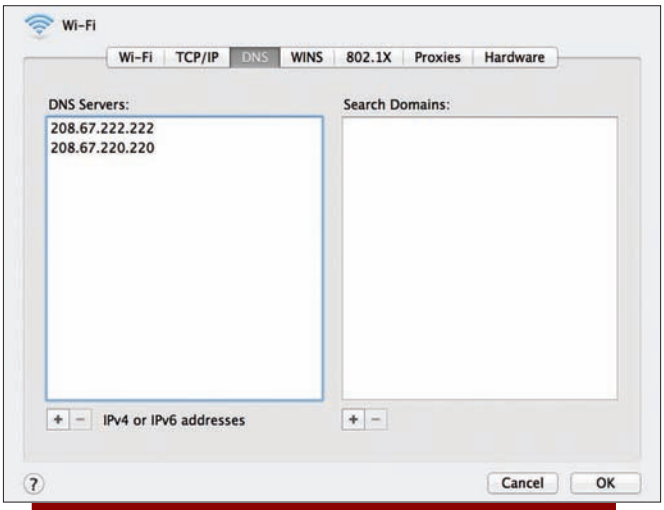
The Domain Name System enables your machine to convert domain names (like apple.com) into IP addresses (such as 17.172.224.47) that computers can understand. If the DNS server that your Mac uses is offline, slow or faulty, you may be unable to connect to any site or service by name.

If none of the websites you try – including stable ones such as Google – respond, here's an easy way to check whether DNS is functional. In your browser, type this URL: `http://74.125.230.243`. That address should bring up the Google website. If it does, your internet connection is fine, and the problem involves your system's ability to look up domain names.

To fix that problem, open the *Network* pane of System Preferences and select your network connection in the list that appears on the left. Click *Advanced*, and then click *DNS*. Look in the DNS Servers field, and you should see one or more IP addresses listed there. If those addresses are enabled (a status that OS X indicates by showing them in black type, rather than grey), select each one in turn and click the *Minus* (-) button.

Then, regardless of whether you already see IP addresses on the list in grey, click the *Plus* (+) button and enter `208.67.222.220`; afterwards, repeat the process with `208.67.222.222`. (These two addresses point to OpenDNS, a free DNS service that may be more reliable than the default servers that your ISP uses.) Click *OK* and then click *Apply*. Now cross your fingers and try connecting again.

If the DNS server that your Mac uses is offline, slow, or faulty, you may be unable to connect to any site or service by name



Adjust DNS If you find that you're unable to reach any websites, change your Domain Name System settings.

GETTING BACK ONLINE

Even if you follow all the steps in this section, you may not successfully connect to the web, because some outages are beyond your control. Because of the internet's distributed nature, an equipment failure at an ISP can affect users besides its own customers. On a larger scale, accidental damage to a major fibre-optic cable can wipe out access to a region.

With some outages, all you can do is wait, but if the problem lies beyond your local network, your ISP should be able to tell you what it is and provide an expected repair time. – JOE KISSELL

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TROUBLESHOOTING

TRASH WON'T EMPTY

When you drag files or folders to the Trash icon in the Dock, OS X doesn't delete them immediately. Just as you can pull something out of a physical trash can before the garbage collector drives by, you can remove files from the Trash until you get rid of them for good (and thereby recover the disk space that those files were using), by choosing *Finder* ➜ *Empty Trash*.

QUIT THE APP

If the error message asserts a file is in use, quit the last app that accessed the file (if you know what it is). Then try again to empty the Trash. Sometimes the error message is spurious – for example, Mail may report that a file is in use long after you sent it as an attachment. Quitting Mail, emptying the Trash, and then reopening Mail usually fixes the problem.

OVERRIDE THE LOCK

Does the error message tell you that a file is locked? Hold down <Option> and again choose *Finder* ➜ *Empty Trash*; in this situation, the <Option> key tells OS X to override locked files.

FORCE THE TRASH TO EMPTY

Those tricks won't work in cases where the error message declares that you don't have permission to delete a file, or where no error message appears at all but the Trash remains full. In those instances, you have a couple of alternatives.

You might already have a utility that, among other things, can force-empty the Trash. For example, both Maintain's Cocktail ($14 [£9], bit.ly/3pfwkX) and Titanium Software's OnyX (donationware, bit.ly/UJON2u) offer this feature. For a utility whose only function is to force the Trash to empty,try NoName ScriptWare's Trash It (donationware, bit.ly/rlOhi3).



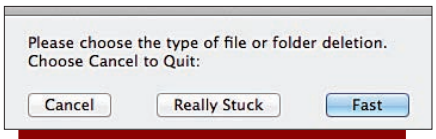
The trash won't empty When the trash is being a grouch, you can get into an infinite loop as you try to remove unlocked items.

HIT THE TERMINAL

All of those utilities send OS X commands that you can issue yourself in Terminal. To do so, open Terminal (in /Applications/Utilities), type `cd ~/.Trash`, and press <Return>. Type `sudo rm -R` followed by a letterspace (note that the letterspace is essential), but don't press <Return> yet.

Instead, click the Trash icon in your Dock to open a window displaying the contents of the Trash. Select everything in that window and drag it into the Terminal window; this action adds the paths of all of those files and folders to the *rm* (remove) command.

Now, press <Return>, and enter your administrator password when prompted. In a moment or two (depending on how much material is in your Trash), the Trash icon should return to its empty state. – JOE KISSELL



Trash it If your trash won't empty, this modest utility from NoName ScriptWare can force the issue.



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THE ULTIMATE MAC

APPLE PROMISED THAT IT'S WORKING ON SOMETHING 'REALLY GREAT'. SO WHAT CAN WE EXPECT FROM THE NEW MAC PRO?

By Karen Haslam

Back in June 2012, Apple attracted criticism and concern after it made a minor update to the Mac Pro. In response, CEO Tim Cook promised that new models would be announced in 2013, so we know something is on its way.

A likely release date and venue would be at the company's annual worldwide developers conference (WWDC) – set to start on 10 June. Previously, the event tended to have a pro focus, though in recent years it's been taken over by the iPad, iPhone and iOS. Hopefully, this June we'll get back to the Mac.

But should we expect a Mac Pro at the developer show? Does Apple care about its workstation? Indeed, does anyone care about it anymore? Over the past few years, the traditional Mac Pro customer has opted for an iMac, or a non-Apple alternative that's cheaper, updated more frequently and has similar – or better – levels of software support. Apple, on the other hand, has pursued the highly profitable consumer market.

The Mac Pro isn't a high-powered consumer computer – it isn't even a business machine. It's a tower system for professionals who like adding things to their computer: new graphics cards, hard drives, and so on. It offers Hyper-Threading technology for up to 24 virtual cores, has ports galore and can pack up to 64GB of RAM.

The typical market for Apple's professional system is 3D mechanical design, engineering simulation, animation studios and video production houses. Over the years, the Mac Pro had risen in popularity with this group, only to fade as it failed to keep up with the times. Can Apple win the professional Mac user back, or is this group of users now lost to it?

TODAY'S MAC PRO

Apple last updated the Mac Pro at WWDC 2012. However, the introduction of this 'New' model resulted in a lot of criticism, lead by Andy Hertzfield (a member of the original Mac development team), and a Facebook page, MacProsPlease, was set up by a freelance editor/animator to plea with Apple to address the issue.

In response to fears it was abandoning the Mac Pro, Tim Cook promised that a new model would be released in 2013. In an email to one concerned Mac Pro user, he wrote: "Our pro customers like you are really important to us. Although we didn't have a chance to talk about a new Mac Pro [at WWDC], don't worry as we're working on something really great for later next year."

Apple had launched two versions (along with various build-to-order options and a Server model): one with a 3.2GHz, quad-core Intel Xeon chip, with 6GB of RAM; and a high-end model with two 2.4GHz, six-core Xeon processors and 12GB of RAM. Both have a 1TB hard drive and AMD's Radeon HD 5770 graphics cards.

As noted by Hertzfield, there was: "Still no Thunderbolt, still no USB 3.0, no SATA III or RAM speed improvements – it seems like it's stuck in time in 2010." The top-end graphics option is a pair of 2009 ATI Radeons – that cost around £100. It's no wonder Mac Pro users were concerned. In fact, it's now almost three years since Apple last really updated its Mac Pro (July 2010, when it introduced SSD and 12 core options).

Banned in Europe

It hasn't helped matters that Apple has been forced to stop selling the Mac Pro in Europe. An amendment to a safety regulation left the professional Mac incompliant with EU law and the company had no choice but to stop shipping the Mac Pro to European countries on 1 March.



New and old The Mac Pro's design has hardly changed in 10 years as you can see from these images. **Left:** Mac Pro, circa June 2012. **Right:** Power Mac, circa 2003.

Apple told Macworld the amendment to the IEC 60950-1 regulation increased requirements around electrical port protection and the fan guards in the system. It added it still considers the Mac Pro to be a safe and reliable product, so if you own one there's no need to panic.

At issue are the Mac Pro's large fans. Because they are unprotected, it would be possible to touch the fan blades. According to Apple, the new requirements necessitate fan guards and some increased protection on the ports on the electrical system.

To comply with these safety regulations it will have to make some internal changes to the machine, though we hope to see more than fan guards in the new model. For starters, the aging Mac could do with a bit of a facelift.

Its design hasn't changed in a decade. The only difference between the case of the Power Mac G5 launched in 2003 and that of the current Mac Pro is a few extra ports and a second optical drive. The presence of two optical-drive slots demonstrates just how old the current Mac Pro design is.

In terms of technology design, 10 years is equivalent to the time between the Triassic and Cretaceous periods. Some key changes that have happened over the past 10 years include:

- Components are much smaller and more efficient, so take up less space
- Input/Output is now much faster (Thunderbolt and USB 3.0) making external components as viable and easier to use than internal upgrades
- Optical technology (DVD-Rom) is being put out to pasture, and drives are being removed from most newer computers
- SSD Flash has replaced/augmented traditional hard drives
- RAM is integrated with the motherboard
- Wireless technology

The result is smaller and thinner computers. Indeed, you only need to take a look at the MacBook Air and latest iMac to see this in action.

NEW-LOOK MAC PRO

With the new technology mentioned opposite, a redesigned Mac Pro could be substantially thinner than the current model, and Apple certainly tends towards the slim as its natural design progression.

But would this be practical for the traditional user? With a thinner case comes the prospect of Apple creating a Mac Pro that's capable of being both a desktop computer and a replacement for the 4.4cm tall Xserve Rack Apple discontinued in 2010. This would come as relief for both Mac OS X power users and system administrators, who were left in a state of limbo after Apple discontinued its rack mount server.

Whether Apple can pack the power of the Mac Pro into a 1in thinner case is debatable, though if you look at something like the HP Z1, you can see how HP has squeezed workstation power into an iMac-esque case. .

The slimmer form factor may impact its upgradeability though, especially with regard to the PCI Express sockets used for graphics cards. Apple could include space for an upgradeable card, maybe two at a push. Or it could elect to have fixed graphics along with the CPU at the time of purchase. However, upgradeability is important, and for some the ability to add graphics cards and extra memory at a later date is crucial.

One cosmetic change that seems inevitable is the removal of the optical drive, which is likely to attract hostility even in this era of cloud computing and Wi-Fi storage solutions.

Modular design

Another suggestion is that Apple could move to a modular system for the Mac Pro. At the Consumer Electronics Show in January, a company called Xi3 revealed a modular computer called the Piston, and Apple is rumoured to be interested in the technology. If it adopted such a design, it would not sell a single case but several smaller component 'cubes' that connect together to form a computer. So you'd buy a processor cube, a storage cube, a graphics card cube, and so on. These would connect using Thunderbolt technology. It's an interesting concept, although whether Apple is planning such a radical change is debatable.

An iMac Pro

Alternatively, Apple may be planning to launch a desktop computer that sits somewhere between the iMac, Mac mini and the current Mac Pro.

In January, a company called Xi3 revealed a modular computer called the Piston. Apple is rumoured to be interested in the technology

There are a good number of people for whom neither the Mac Pro nor the Mac mini is the right fit: they don't need all the bays, slots and other geek-wish-list features of the Mac Pro, but the mini doesn't offer enough storage or internal expandability. Similarly, some people won't buy an all-in-one computer like the iMac because they don't like the screen, not to mention that the latest models offer essentially no internal expandability. A screenless desktop with power-user performance and moderate expandability is attractive to some.

So how about a minitower with a reasonably powerful processor; a good graphics card in an upgradeable slot; a decent amount of upgradeable RAM; two drive bays that could accept either traditional hard drives or SSDs; and a PCI Express slot?

Won't high-end pro users abandon the Mac platform without a 'true' Mac Pro? Some will, there's no doubt. But many already have, arguing it's Apple that's been slowly abandoning the high-end market over the past few years. (There's some evidence for this: token updates to the Mac Pro, dropping the Xserve and Xserve RAID, major updates to pro apps that make them seem more consumer than pro-focused, and so on.)

If you consider Apple's efforts over recent years to make everything smaller, cooler and less power-hungry, along with the fact you don't need massive



Not such a big Mac A modular design for the new Mac Pro is shown in this concept image.

ON THE INSIDE

In the past, one of the biggest challenges Apple faced when designing a smaller Mac Pro was squeezing in powerful components, while keeping it reasonably priced. But technology has evolved to the point where a smaller Mac Pro could handle all but the most-demanding workload. So what can we expect to see on the inside?

Processor

Apple looks set to adopt Intel's next-generation of CPU, codenamed Haswell, for its consumer machines, but don't expect to see these in the new Mac Pro.

The processor inside the current model is Intel's Xeon E5645 CPU – a two-year-old Westmere-EP chip based on the Sandy Bridge architecture. Xeon processors were designed for workstations and servers, so this chip family seems the most likely for any future Mac Pro. Enter rumours Apple is waiting for Ivy Bridge E, which will be marketed as Xeon E5 V2 processors. There's no corresponding Sandy Bridge predecessor.

However, Ivy Bridge-E (Xeon E5) processors may not be seen until the end of this year (they are due to launch in Q3 2013), which would scupper any plans to unveil an updated Mac Pro in June at WWDC. However, Apple has previously secured exclusivity from Intel for several generations of Xeon processors.

Ivy Bridge E offers six- to 12-core chips, which means Apple could theoretically produce a 24-core system. That's double the 12 cores in the current model. The memory will also be upgraded from 1,333MHz to 1,600MHz to allow for 25 per cent more memory, with eight physical memory lanes.

You can also expect to find large amounts of cache, quad-channel memory controllers supporting 8GB of DDR3-1066/1333/1600/1866 per DIMM slot, along with PCI-E 3.0 (40 lanes) and four lanes supporting PCI-E 2.0.

However, it's also feasible Apple could put a less powerful processor in the new Mac Pro. It used to be that the small, efficient, cool-running processors used in laptops and consumer-level desktop computers weren't very powerful. If you wanted real performance, you needed a big tower, with a huge, power-hungry processor that required a heat sink or other cooling system, which was itself bigger than some laptops. But that's not the case any more. Today's best consumer-level processors, such as the Intel Core i7, are small, efficient and cool enough to fit inside a Mac mini, while outperforming the current Mac Pro for many tasks. And Intel and other vendors are working on making higher-end workstation processors use less power and run cooler. In other words, a Mac mini tower with an i7 chip would be plenty fast enough for many users.



On the inside Any new Mac Pro will need some seriously powerful components if its to beat back the competition.



Ivy Bridge Apple is expected to use Intel's new Ivy Bridge E processors, due to ship later this year, inside the new Mac Pro.

If you think this is unlikely, rumours suggest Apple may be moving away from Intel chips for its Mac line-ups. Given the progress of Intel's CPUs and the difficulty of making such a switch, it's unlikely Apple will abandon Intel processors in the near future, but you never know.

Graphics

For many professional users the graphics card is crucial, and they will watch for news of the graphics card in the new model with eager eyes. However, the Mac Pro is the only Mac that lets a user update the graphics card, so it may matter less what card is provided, as long as it can be switched out at a later date.

The past year has seen Apple move from AMD to Nvidia graphics in its iMac and MacBook Pro. In fact, the only Mac model currently shipping with graphics from AMD (ATI Radeon HD 5770 and 5870) is the Mac Pro.

This doesn't indicate that the new Mac Pro will drop AMD cards; indeed an Apple job ad for a systems electrical engineer

for the Mac Desktop Systems Engineering team notes the applicant should have experience with AMD as well as Nvidia GPUs and Intel chipsets. In addition, driver support for the Radeon HD 7900 series of powerful discrete graphics cards from AMD was referenced in an OS X 10.8.3 beta back in November, along with references to a Mac Pro 6.0 model. The Radeon HD 7900 series, codenamed Tahiti LE, includes both the Radeon HD 7970 and 7950. These cards offer 3GB of GDDR5 memory and are based on a 28-nanometer chip manufacturing process, as well as featuring AMD's Graphics Core Next architecture.



Radeon The new Mac Pro may ship with AMD's Radeon HD 7900 series of graphics cards.

Hard drive

For some pro users, the biggest appeal of the Mac Pro's enclosure is that it can accommodate multiple drives. Many people using these systems need lots of space to store huge video, audio and image files, or other large data sets – and they want fast access to that data. But those who need the most storage and the fastest performance often end up using external solutions, such as fibre-channel storage, anyway. And the performance of Thunderbolt means you can add multiple external drives without the same performance hit you get from FireWire. (There are even Thunderbolt-fibre-channel adaptors.) So it's not hard to imagine Apple making a smaller Mac Pro and suggesting those who need more storage take advantage of Thunderbolt.

One thing is certain; the new Mac Pro will offer a Fusion Drive option – Apple's data storage technology, which combines hard drives with flash (or SSD) storage. OS X manages the contents of the drive so the most frequently accessed files and applications are stored on the faster flash storage, while infrequently used items are left on the hard drive. Outfitting a new Mac Pro with an SSD and a large-capacity internal hard drive will mean better I/O performance for many tasks. Unfortunately, the technology Apple uses to make the Fusion Drive work is proprietary, so any Flash storage inside the Mac Pro will have to be fitted by Apple when you buy the machine.

In addition, Apple is said to be developing a 2TB SSD for the new Mac Pro, with a view to offering 8TB of flash storage. This is based on reports that while on a tour of a Chinese factory, sources claimed to have seen "an initial run of solid state drives bearing a logo which is very recognisable in the West – Apple Inc," according to BSN. The current Mac Pro can be configured with up to 8TB of storage in the form of 7,200rpm hard drives.

The new Mac Pro will offer a Fusion Drive option – Apple's data storage technology, which combines hard drives with flash (or SSD) storage

Networking

Apple also looks likely to add superfast networking technology 802.11ac to the new Mac Pro. Code in the second beta of Mountain Lion OS X 10.8.4 (build 12E30) includes a reference to the new, as yet unratified, standard.

802.11ac, sometimes referred to as 'Gig Wifi' or 5G Wi-Fi, is the successor to 802.11n. It promises bandwidth of up to 1.3Gbps. In comparison, 802.11n products provide connections of up to 450Mbps. The technology will bring superfast Wi-Fi connectivity to Macs, speeding up throughput, as well as improving coverage, and also supercharging Apple's AirDrop features and Wi-Fi syncing.

RAM

Where the high-end iMac is capable of supporting a maximum 32GB RAM, Mac Pros can already handle 64GB. That's more than enough for most, but in the pro arena there are workstations offering more. Take the Dell Precision T7600 Workstation or the HP Z820 Workstation, which offer 512GB RAM. If Apple wishes to be taken seriously in this market it may need to up the amount of RAM.

EXPANSION PORTS

The easy-access interior of the Mac Pro is hidden behind the side panel. This means users can slide out the processor tray to add memory; the drive bays to add storage; slide a bar to change up to four expansion cards at once; and thanks to the I/O ports add lots of external devices, says Apple of its current Mac Pro.

Thunderbolt

One thing about the Mac Pro update in June 2012 that didn't make sense was the lack of a Thunderbolt port. This is especially puzzling, considering it's the professional market that's most likely to spend money on Thunderbolt accessories this was a strange omission. For example, it lets you connect four HD screens at a time, who, other than a professional user, would want to do that.

As yet, Apple's high-speed peripheral interface hasn't taken the pro market by storm, and that's probably due to the shameful lack of Thunderbolt in the Mac Pro line. Apple can't even use the lack of Thunderbolt peripherals as an excuse. Now the technology has been around for a few years, and has long come standard on many Macs, high-end Thunderbolt peripherals are widely available. You can get super-fast RAID drives with Thunderbolt connections. And if you need specific PCI cards, a Thunderbolt PCI case will let you use many kinds of PCI cards (other than video cards) over a Thunderbolt connection. A new Mac Pro will surely have multiple compatible ports.

If you were wondering, Thunderbolt is a peripheral-connection technology, developed by Intel with collaboration from Apple, that combines data, video, audio and power in a single connection. Based on the PCI Express and DisplayPort architectures, Thunderbolt allows for high-speed connection of peripherals such as hard drives, RAID arrays, video-capture solutions and network interfaces, and it can transmit high-definition video using the DisplayPort protocol. Each Thunderbolt port provides up to 10 Watts of power to connected peripherals, and up to 10Gbps of data throughput (faster than USB 3.0).

USB 3.0 and FireWire

Disappointingly, the current Mac Pro doesn't offer USB 3.0 – it's still stuck in the dark ages of USB 2.0. The problem is that the current Sandy Bridge chipsets don't natively support USB 3.0.

One thing the current Mac Pro offers that future models may not is FireWire. It's probable that in gaining Thunderbolt and USB 3.0, FireWire will be culled. The standard has already disappeared from every other Mac, with the exception of the Mac mini, although the first time Apple attempted to remove it the creative world was in uproar.

Expansion cards

Apple's Mac Pro is the only Mac to offer PCI expansion, and this is a key reason why it appeals to professional users. These PCI cards can be used for faster RAID performance and transcoding of video, high-end networking, complex audio/video connections, and many other things the average consumer will never need.

Such expansion slots are essential for users who wish to add high-end video cards, sound, networking, RAID arrays, and other connectivity options to their Mac. There are currently three such slots. However, there are some fears Apple could reduce this to two PCI ports in its desire to make the machine thinner. It may also update to the PCIE3 standard, which will offer 40 lanes per socket, rather than the usual 36.

Many of those who in the past required PCI slots can these days make do with other solutions, thanks to Thunderbolt.

We've also seen reports that claim that SATA III/SAS connectivity will be native in the new Mac Pro.



Ports The Mac Pro offers users easy access to the interior for simple expansion.

SuperDrive

Another feature that may be removed is the optical drive. We aren't completely convinced Apple will remove the optical drive from the Mac Pro. The professional Mac user is probably the one and only one remaining that could honestly say they require an optical drive. For one thing, some professional creative software isn't widely available as a download, although it's only a matter of time. (See our story about Adobe's plan for Creative Cloud on page 9.)

One thing the current Mac Pro has that future models may not is FireWire. It's likely that in gaining Thunderbolt and USB 3.0, FireWire will be culled

WILL THEY, WON'T THEY

The Mac Pro is a classic tower computer, offering owners the opportunity to open up the case and tinker around; taking parts out and replacing them with components of their choosing. Apple hates this. The latest iMacs glass front panel and the LCD have been fused together, where they used to be attached with magnets. Given this, is it surprising that many believe the Mac Pro is doomed?

Even if Apple is still interested in the professional Mac market, it may well be that Apple has simply lost the workstation market, as it did the server market with the Xserve, either because it wasn't competitive enough or dedicated enough. Is Apple ready to abandon the higher-end of the desktop market to Dell and HP? Does it really need a workstation? Or to put it bluntly do we need a workstation from Apple?

Maybe it doesn't really matter enough. We spoke to some Apple resellers about the removal of the Mac Pro in Europe, and one told us: "The Mac Pro removal is not really going to be that huge of a problem, it was a very small seller in the APR channel, so much so that it was removed along with the Mac mini off the store's display."

The fact is most consumers and even professionals switched over to the iMac a long time ago. As our reseller explained: "While customers have been waiting for a serious upgrade on the Mac Pro, the iMac is a better all-round machine and still has great upgradeable options on it."

Although as another Apple reseller pointed out: "It does highlight that Apple is heading into an entirely consumer world, and business customers have to compromise if they want to stay Mac. It highlights that as a business group, the Mac Pro team generate less profit per head than other areas of their business."

The proportion of Apple's revenue that comes from the Mac Pro line has been steadily declining as iOS devices and MacBook sales have surged, while the iMac has become one of the most popular desktop computers on the market. There is one way in which Apple could make the Mac Pro unit more profitable – the company could start manufacturing them in the USA.

Born in the USA

Apple CEO Tim Cook last year announced that Apple would shift production of one Mac to the USA, and industry watchers expect this to be either the Mac Pro or the Mac mini. The odds are good that it will be the Mac Pro though, for a number of reasons. For one thing, shipping it from China is expensive because it's such a bulky item. The other reason is that Apple sells fewer than one million systems a year – it makes sense to manufacturer the high-demand products where labour is cheaper and voluminous. In addition, any extra labour costs associated with manufacturing in the US can be more easily absorbed by a £2,000+ Mac Pro than by a MacBook or an iMac that sell for £999, as noted by *Fortune*.

Will the new Mac Pro live up to expectations? It's been a long time coming and the traditional user base has a hell of a big wish list. Many fear that the update will not meet their needs. Many of these pro users – particularly the ones who need the absolute best performance and the most expandability (and, it should be said, who were once Apple's bread and butter) – already believe that Apple has abandoned them. It's likely they have already bought specialised workstations from other vendors.

There are also fears Apple runs the risk of losing iMac sales if it builds a reasonably priced Mac minitower. We know the company has plans to produce a Mac for its professional users, but Tim Cook never actually said that it would be a new Mac Pro. His words were: "Our Pro customers like you are really important to us. Although we didn't have a chance to talk about a new Mac Pro at today's event, don't worry as we're working on something really great for later next year."

We'll wait to see what this something really great turns out to be.



Little and large Here is a Scott Richardson's concept image of what a new Mac Pro could look like.

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iPad & iPhone user
APP REVIEWS, TIPS AND BUYING ADVICE FOR iOS ADDICTS

THE BEST BUYS FOR YOUR iDEVICE



30 APPS & GAMES REVIEWED

INSPIRATIONAL ART ON YOUR iPAD

See how landscape photos can be transformed into beautiful art on your iPad

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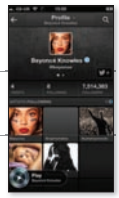
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David Price *iPad & iPhone User Editor*
Get in touch: twitter.com/pricivius

NEVER BORED AGAIN

Boredom is good for you, apparently. While refreshing news for the parents among us, desperate to ensure their offspring are constantly stimulated, this is not really new information: researchers have known for years that a little time spent in neutral can make the brain more creative. What *is* new is the fear that the brilliantly engaging versatility of our portable computing devices means many of us will never be bored again.

Having games, apps, email, the internet, music and a library of eBooks in your pocket at all times turns any free moment into leisure time. Anyone reading this column will know the 'iPhone reflex': the hand instinctively reaching for the nearest iOS device as soon as a drinking partner goes to the bar or the Tube door closes. No generation in history has got bored more quickly, or put up with the sensation with less patience. Daydreaming is dead.

Still, something similar was probably said about the first generation of TV addicts, and if there's one thing mobile computing has over the square box, it's engagement. Your iPhone demands input, even if that input is often of the most perfunctory sort: a click, a swipe, the matching of three coloured tiles. And sometimes it draws you into true creativity.

Your iPhone demands input, even if it's often of the most perfunctory sort

This month we speak to a landscape artist who believes the iPad will have the biggest impact on painting since the early 19th century (page 54). Budding mixologists can hone their skills with our review of Traktor DJ on page 61. And a world of brain expansion awaits in the world of podcasts: find out more on page 64. Let's keep those synapses firing, and to hell with boredom.

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Strong sound

Hercules WAE BTP03

£109.99

wireless-audio.hercules.com

The WAE BTP03 is a stylish portable Bluetooth speaker that can connect to your iPad, iPhone, iPod touch or other Bluetooth-equipped device to stream your music. Hercules promises that the BTP03 has a battery life of up to 15 hours. The speaker also has a built-in microphone for taking hands-free calls. The included WAE Remote app allows you to control the speaker using your iOS device.

VERDICT: This trendy speaker is ideal for a weekend getaway or a barbecue in the garden this summer.

Sounds for the underground

Onkyo IE-FC300

£129.99

www.uk.onkyo.com/en

Onkyo's new range of headphones includes the IE-FC300 in-ears, which come complete with a conductive copper-core cable wrapped in transparent elastomer insulation for top-notch audio. They're also designed to be durable and comfortable, making them ideal for commuters on long journeys. Onkyo has promised it's working on a headphone equaliser app, which you'll be able to use to adjust the sound to your taste.

VERDICT: The IE-FC300s look great, and Onkyo promises they sound great too.





Skin deep

Logitech FabricSkin Keyboard Folio for iPad

£129

www.izzigadgets.com

This keyboard folio case for iPad is designed to suit your personal style, so Logitech has made it available in a range of fabrics, including matt leather and woven cotton, and a variety of colours, such as Electric Blue, Urban Grey and Mars Red Orange. It can hold your iPad in two different positions, and provides a Bluetooth keyboard with full-size keys that's built into the interior surface fabric of the case.

VERDICT: Logitech's FabricSkin case looks both professional and fun, and could come in handy for meetings, or simply Facebook chats. It's a bit pricey, though.

Thirsty

Mophie Juice Pack Air for iPhone 5

£89.95

www.mophie.com

Mophie's popular battery case, the Juice Pack Air, is now available for the iPhone 5, providing Apple's latest phone with a power boost when it needs one, while also protecting the device from bumps and scratches. Users of the Juice Pack Air will still have access to the iPhone's buttons and switches, too. There's also an LED battery indicator, to let you know how much power the Juice Pack Air has left. Plus, it comes in three colours, so it looks good too.



VERDICT: If you find that your iPhone 5's battery drains too quickly for your liking, then the Juice Pack Air is definitely worth considering.

Smart Power

Defender with iON Intelligence

$129.95

www.otterbox.com

iPhone 4 and 4S owners can get their hands on a new battery case offering ready for the summer holidays. OtterBox's new Defender with iON Intelligence features patented three-layer protection for your iPhone, while also providing double the battery life, the company says. The case knows when to charge your iPhone using the automated power management process, and can be paired with an interactive battery-monitoring app (free, **bit.ly/13KaMeR**).

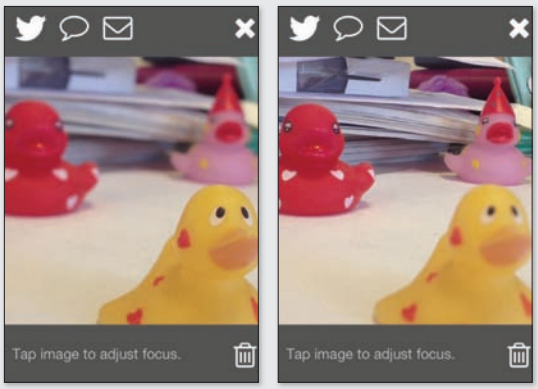


VERDICT: This clever case will come in handy at festivals this summer, keeping your iPhone safe and full of power.

CATWALK THE BEST-LOOKING iPHONE CASES



BEST NEW APP



FocusTwist (£1.49)

RATING ★★★★★

FocusTwist is a photography app with a twist – literally. When taking a photo, the app captures various stills with different points of focus. But instead of presenting these stills for you to choose from, it combines them into one, interactive image that lets you tap to change the focus from something in the foreground, to something in the background, and vice versa. This interactive image can then be shared via Twitter, email and on the app itself, so friends and family can check it out.

It's weirdly addictive to see what you can create, and it's entertaining to flick through and see what other FocusTwist users have been capturing, too.

BEST NEW GAME



Bookworm Heroes (Free)

RATING ★★★★★

Popcap, the developer that brought us Bejeweled and Plants vs. Zombies, has released an all-new Bookworm game that introduces our bespectacled green friend to new foes, including your Facebook friends. In a gameplay style reminiscent of Words With Friends, you and your Facebook friends – or random opponents should you choose to skip logging in – will take it in turns to find a word in a grid of letters. The longer the word, the better. Once you've spelled out your word, Bookworm will use it to tackle your rival and reduce their health. There are special tiles and extra bonuses too.

NEW APPS ON iTUNES



Audio Mastering (£6.99)

Polish up your tracks with Audio Mastering for iPad. Process sound, convert formats and bit depth, change sample rate, make previews and add fades in real time.



Turnado (£10.49)

Turnado brings real-time audio manipulation to the iPad, with eight effects and control over key parameters. There's also an integrated music player and recorder.



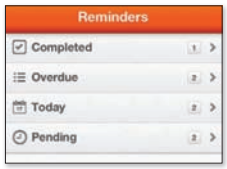
Infuse (£2.99)

Infuse lets you view video in 14 formats, and organise them too. It has a Retina-ready and stylish interface, to make watching media on your iPad or iPhone even better.



Perfect B&W (£1.49)

OnOne Software has released this universal photo editing app, to help you create gorgeous black-and-white images using your iPad or iPhone, and share them.



Complete (69p)

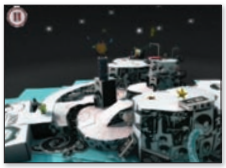
Complete rolls three apps into one. It acts as a reminders, tasks and lists app to help you keep on top of your to-dos and stay organised. Gestures help you sort through your lists, too.



Evomail (£1.99)

Evomail lets you access multiple Gmail accounts and send attachments more easily than Apple's native Mail app through the use of gestures and colours.

NEW GAMES ON iTUNES



Paper Titans (£1.99)

Reunite the Titans in a world made from paper, through 45 3D puzzle-filled levels. Make new friends by folding paper, who can help you with puzzle-solving.



Oh My Heroes! (69p)

Join the multiplayer battle or play as a single player in Oh My Heroes, which requires players to defeat enemies on a mission to collect Magic Crystals.



Sorcery! (£2.99)

Embark on an adventure with a interactive tale that changes depending on the choices you make. Use swords and a variety of magic spells to defeat monsters.



Star Command (£1.99)

This universal app lets you build your very own spaceship. Hire crews and help them level up as you explore the universe and fight alien civilisations.



Emilly In Darkness (£1.49)

Play through the story of Emilly, who is lost and alone in a terrifying place full of demons, in this action-adventure game for iPhone.



Eclipse: New Dawn for the Galaxy (£4.99)

This iPad version of the board game can have up to six players, who'll need to control their interstellar civilisation to become victors.

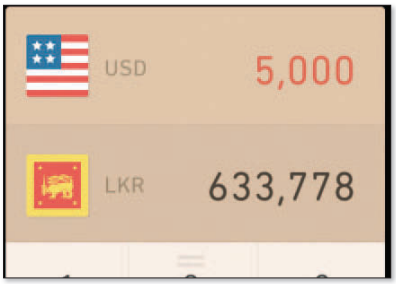
FAVOURITE NEW NOTES APP



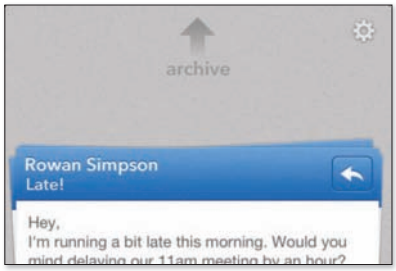
Classic Note (£2.49)

RATING ★★★★★

You'll be transported back to the 1980s with this retro-style note-taking app. Make shopping lists and jot down thoughts using Classic Note on your iPhone. There's even a calculator thrown in there too, for good measure.



Currency – Simple Converter (69p)
Ideal for jetsetters, Currency provides a quick way to work out how much you're spending while abroad. There's over 160 currencies installed, and an offline mode.



Triage (£1.49)
If you get a lot of email, you might find this iPhone app useful. It tracks down unread messages and provides a way to speedily sort through them using gestures.



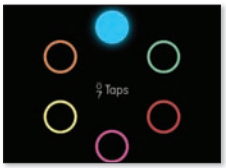
Shiny The Firefly (£1.49)
Help Shiny (the firefly) to find his babies in the garden that – while pretty – is filled with nasty enemies such as wasps, toads and centipedes.



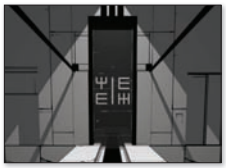
Robot Unicorn Attack 2 (Free)
Create your own unicorn and unlock abilities to help you race through worlds, battle giants and meet creatures such as the Space Whale.



Talisman Prologue HD (£2.99)
This iOS game is a prologue to the Talisman fantasy boardgame. There's 10 characters, 50 quests to play, and a multiplayer update is coming soon.



Circles Memory Game (69p)
Test your memory skills to see if you can beat all 120 levels. Try and top your friends high scores, by remembering the most taps in a row.



Hiversaires (£1.99)
There are no words to help you in this universal cryptic point and click adventure game. Can you figure out what to do and how to escape?



Fish Out Of Water! (69p)
The creators of Fruit Ninja bring us this new adventure featuring six fishy friends who love to soar high above the surface of the ocean.

NEW FILMS ON iTUNES

Django Unchained (£13.99)
Quentin Tarantino's *Django Unchained* stars Jamie Foxx, Leonardo DiCaprio and Samuel L. Jackson. The film follows a freed slave and a bounty hunter on a rescue mission that takes them across the US.



Les Miserables (£13.99)
The latest musical film adaptation of Victor Hugo's 1862 novel *Les Miserables* is full of famous faces, including Hugh Jackman, Russell Crowe, Anne Hathaway and Amanda Seyfried. It's already won an abundance of awards.



Zero Dark Thirty (£13.99)
Watch "the greatest manhunt in history" unfold before your eyes in this film, which dramatises the hunting and killing of Osama bin Laden, the infamous leader of terrorist organisation al-Qaeda.



Cloud Atlas (£7.99)
Based on David Mitchell's novel of the same name, *Cloud Atlas* features six different stories spanning across four centuries in the past, present and future, that intertwine and affect one another. Tom Hanks and Halle Berry are among its stars.



I Give It A Year (£13.99)
I Give It A Year is a British comedy film directed by *Borat* writer Sacha Baron Cohen, and was filmed in London. It stars the likes of *Mentalist* actor Simon Baker, as well as Minnie Driver, Steven Merchant, Rafe Spall, Rose Byrne and Anna Faris.



10 Essential hardware accessories

Boost the appeal of your mobile device with these practical add-ons

BY ROB CLYMO



That's entertainment Adding a new Belkin Thunderstorm Handheld Home Theatre to your iPad produces an audio visual experience that's second to none

Having a mobile device such as the Apple iPad, or perhaps, an iPad mini, allows you to do so much more with your computing activities. It offers oodles of features and functionality, so you can carry on with daily chores, no matter where you're based. However, it's possible to squeeze even more productivity out of your mobile gadget thanks to the wealth of available hardware accessories. During the course of this feature, we'll point you in the direction of 10 of the best examples, with options that range from wireless printers to security cameras and all points in between.

If you thought your humble iPad was just a gadget for installing your favourite apps on then think again, because there's even an accessory that can turn it into a veritable home entertainment centre. The awesome Belkin Thunderstorm Handheld Home Theatre (above) allows you to dock your tablet into a mini cinema system that will enhance the way you watch your favourite movies and TV shows. Gamers, meanwhile, will love the added sense of action and adventure that's provided by the high-end audio capability built in. That's just one quick example though; there are a wide variety of add-ons that can enhance the way you use your iPad device in numerous ways, including the ability to improve it's usability. So come with us as we take a trawl through some of the best hardware accessories currently on the market. You'll be very glad you did.

1 Withings Smart Baby Monitor

This natty £240 baby monitor not only looks good with a lustrous white finish that'll complement your iOS device, but it does a great job of monitoring your child, too. Aided and abetted by a free app, this piece of hardware offers high-resolution video that features pan, tilt and zoom features, plus night vision for after the lights have gone out. A sophisticated feature set allows you to monitor any noises you might hear, as well as keeping tabs on temperature and humidity. There's even the capacity for choosing the lighting where your baby is sleeping. This desirable gadget is compatible with all iOS devices, including first, second and third generation iPads. What's more, it's also very easy to set up and operate, and features Wi-Fi, Bluetooth or Ethernet connectivity, so it can be used both at home or if you're away on your travels. An added bonus is the fact you can choose from a series of soothing melodies that come as part of the package, thereby ensuring a good night's sleep for all.



Baby face
The Withings Smart Baby Monitor allows you to monitor your offspring with your iOS device and make a style statement too

2 Belkin Thunderstorm Handheld Home Theatre

Anyone eager to enjoy the best in home entertainment or wanting to boost their gaming enjoyment would do well to investigate this new gadget from Belkin. It's around £180, so isn't exactly cheap, but you do get a lot of bang for your buck. Compatible with the iPad 2 and 3, it's a full range portable speaker system that delivers a beefy home cinema sound, which is also fully optimised to allow you to get the most from the games you've got on your mobile device too. It might be relatively small, but you'll be surprised how powerful this set-up really is, while the design has been carefully thought out to ensure it complements, rather than hinders your gameplay. Inside, there's a powerful sound processor from Audifi, which pumps out a full-range of quality audio, complete with plenty of bass heavy bottom-end for that full-on entertainment experience. What's more, there also a Thunder app that enables you to tweak and fine-tune the sound to meet your own taste.

3 DOCS2GO Scanner for iPad

This practical bit of kit will allow you to digitise just about any kind of document in no time at all. It's a portable scanner that can be up and running in seconds. Priced around £150, all you need to do is dock your iPad into the regular 30-pin connector and duly feed your paper documents through the slot. Shortly after, they'll appear in full-digitised glory on the screen of your device. There's also a free scanning app that allows you to get the best from the document and files you produce, and size-wise it can scan anything up to a standard size sheet of A4 paper. It's also possible to produce high-quality crisp and clear files with a resolution of up to 300dpi, which should make them good enough for use in the likes of magazines and books. Inside the box there's also a calibration chart that enables you to make sure your scans cut the mustard. Add this all together and you've got a really handy little add-on for your tablet device.



Mobile scanner
The DOCS2GO is an undeniably handy complement to an iPad, allowing quick and easy digital scanning of your documents



Tune in, turn off
Billed as a means of putting your home electronics at your fingertips, the Belkin WeMo Switch is a clever bit of kit

4 Belkin WeMo Switch

At around £40, this natty little WeMo switch from the Belkin stable is perfect if you're looking to do your bit for the environment, cut down on energy usage and trim those over-inflated electricity bills you keep getting. What is it? Well, the WeMo Switch effectively allows you to take control of the electronics in your home by switching them on or off using your iPhone, iPad or iPod touch. So, if you're out and about somewhere, you can turn things off if you've forgotten to do it on the way out the door, and you'll start making savings instantly. The WeMo works by calling on the services of your home Wi-Fi network, while the mobile network capacity gives you that added freedom to make adjustments from anywhere. There's also a free app that lets you get the best from the features, while the device itself can be set up within minutes. Adding to the appeal is the stylish design and robust build quality that we've come to expect from Belkin.



Climate change
Anyone obsessed with the weather will love the appeal of the Netatmo Urban Weather Station, although it doesn't come cheap

5 HP Photosmart 5520

While a great many of us choose to share images online, it's also a great idea to have a printer at hand so you can produce tangible pictures that can be hung on your wall. More importantly, being able to print out vital documents is also hugely convenient, which is just where the HP Photosmart 5520 e-All-in-One wireless printer comes into play. What's more, thanks to the Apple AirPrint concept, it's possible to do all this nowadays without the hindrance and hassles of cables. AirPrint allows you to print out all manner of documents using the power of wireless and so your iPhone or iPad becomes perfect for storing and then producing images and documents, no matter where you happen to be in the house. Conversely, it's also possible to scan images and other documents, then send the completed digital file to your mobile device for emailing, or whatever task you have in mind for it. At around £80 or so this all-in-one is both practical and affordable. (See our roundup of AirPlay printers on page 81).

Picture show
The HP Photosmart 5520 boasts AirPrint capacity, meaning that you can output documents and images without the need for cables



6 Netatmo Urban Weather Station

At around £140 this quirky little gadget might seem like a bit of an extravagance, but if you're a fan of innovative products that let you get the best from your iOS device, then it's worth a look. Inside the elegant lines of the Netatmo Urban Weather Station lurks a whole raft of clever technology that allows you to monitor everything to do with the climate around you. Keep tabs on temperature, humidity, air pressure and CO_2, and then dispatch all the data to your iOS device wirelessly. A free app provides the perfect complement to the sophisticated lines of the gadget itself, while the software also enables you to share the information with friends, family and online networks.

7 HipKey Proximity and Movement Alarm

If you've got one iOS device, then that represents a sizeable financial investment, but if you've got several then that's a lot of money's worth. So, what better way to keep track of your assets than spending around £70 on the hipKey Proximity and Movement Alarm. This neat little gadget is compatible with all recent iOS gizmos, including the iPad and iPad mini, and can be powered by USB.



Alarm bells
HipKey's Proximity Alarm will warn you if someone tries to walk off with your valuables

At only 5cm in diameter, it's unobtrusive, but it's also invaluable. In essence, this lets you keep track of all your valuables thanks to an alarm mode that'll give you a timely reminder if you forget to pick up your tablet or phone, and also if someone tries to walk off with it too. It'll also enable you to quickly find your device if you've mislaid it, while the motion mode is handy to ensure that nobody is tampering with your prized possession while it's out of sight. It has a range of up to 50 metres, boasts vibration detection and the battery holds a charge for between two and four weeks.

8 Logitech Ultrathin Keyboard Cover

It's a good idea to get a cover for your iPad, so what better way to do it than by acquiring this cool Logitech offering that also incorporates a Bluetooth keyboard? The slimline aluminium cover promises complete protection for your device while you're out and about, plus there's a simple magnetic hinge design, which means it can be attached securely in seconds. An automatic on and off set-up means you'll get the best from your iPad battery, while the keyboard offers a complete range of keys in order to provide maximum productivity. There are cheaper alternatives than the £90 or so needed to buy this, but it certainly adds another dimension to your iOS device.



Got it covered
Logitech's bluetooth keyboard is also an iPad cover

9 Mophie Powerstand

If you spend a lot of time using your iPad at home, then investing in a proper stand for it is a good idea. Not only that, but if you pick up the £130 Mophie Powerstand, it's possible to ensure your device will also remain fully charged thanks to the built in power source. It's beautifully made from aluminium, has a dual hinge, which makes it versatile and also rotates over 180 degrees, so can be used at just about any angle. As is often the case with Apple accessories, the price tag is a premium one, but the added usability and aesthetic appeal on show here is hard to beat.



Stand up
Mophie's Powerstand will ensure your iPad remains fully charged

10 D-Link Pan/Tilt/Zoom Cloud Camera

It's a shade under £200, but this natty D-Link camera offers cloud-based remote camera monitoring. The great bonus is that you can control it remotely using your mobile device, there's a high-definition lens and it even has the capacity for capturing footage in the dark thanks to built-in infrared LEDs. In addition, there are motion sensors and a temperature detection system, which ensures you won't be disturbed by any unwanted false alarms. What's more, there's the capacity for sending you email alerts when anything untoward occurs.



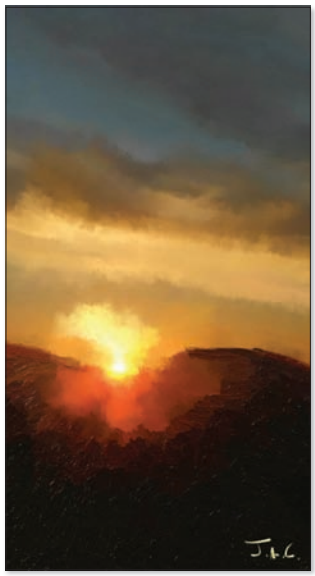
Stay alert
D-Link's cloud camera will send you can email alert if there's a problem



Moving mountain
Glowing Great Gable, inspired by Twitter user @WasdaleHeadInn

art on the iPad

Joseph Connor turns strangers' countryside photos into beautiful iPad art. David Price is inspired



Morning sun
Scafell Sunrise, inspired by @leerockwell15

Middle-aged newspaper columnists love to bemoan the way technology has turned the young into housebound sociophobes, but at its best iOS innovation enhances our day-to-day adventures rather than replacing them. Amateur artist Joseph Connor is one example of the inspirational power of technology, using the iPad to transform photos taken during countryside walks into captivating digital landscapes.

Portable and self-contained, it's the convenience of iPad painting that makes it ideal for landscape work, Connor explains.

"It would appear that apart from David Hockney and myself, the world is devoid of iPad users capable of using the Brushes app to create compelling landscapes," he says. "I find this amazing, and a bit confusing, particularly for those who like painting outside. What is there not to like? No water, brushes, tubes. Just joy."

On his website, Connor offers a bargain: send him a picturesque snap, and if he decides to recreate your shot using Brushes and his trusty iPad, he'll give you a copy of the finished work. And the range (and quality) of the pieces on his site is evidence of how popular his project has proved.

"The iPad has the potential to have the greatest impact on painting since 1841, when tube paint superseded pig bladders," he argues. "The artist Pierre-Auguste Renoir said, 'Without tubes of paint, there would have been no Impressionism.' I would say the iPad has the potential to generate a resurgence in British landscape art the like of which has not been seen since the days of Constable and Turner."

It's early days for iPad art, with (as Connor points out) David Hockney the only big name to publicly embrace the form. But the technical advantages are vast. How differently would 19th-century art history have played out if painters could tote their entire oeuvre around with them for comparison? Or if there was no practical barrier between inspiration and composition – no unwieldy canvas or congealing paint to worry about?

For the first time, a performance artist presents a serious challenge for this year's Turner prize, something that would have seemed inconceivable a few years ago. Who knows? Perhaps an iPad artist will be nominated before the end of the decade.

"In time, maybe we shall inspire more folks outside, iPad in hand," Connor says. "Calling all artists – join the revolution. That's the message I would put out."

Enjoy more of Connor's work – and perhaps inspire him with photos of your own – by visiting **www.seensend.com**.

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The iTunes Store at 10

How Apple reinvented the music business

BY MICHAEL GOWAN



Now and then...
The iTunes has grown massively in size since its early days

It was just 10 years ago – on 28 April, 2003 – that Apple opened the iTunes Store (then called the iTunes Music Store) and changed the way we buy music. The store arrived with just 200,000 tracks; in the ensuing decade, that library has grown to more than 35 million songs, from the Beatles to Jay-Z. You can even download those tracks over your phone if you want – no computer necessary.

Apple's not fond of reminiscing, but even it has taken note of iTunes's anniversary. The store "revolutionized the distribution of digital content," Peter Oppenheimer, Apple's chief financial officer, told Wall Street analysts when announcing Apple's quarterly earnings at the end of April. In addition to those 35 million songs, which are available in 119 countries, the store sells 60,000 movies in 109 countries, and 1.75 million books in 155 countries. By Oppenheimer's calculations, the $4 billion (£2.6bn) in quarterly billings recorded by iTunes in the most recent quarter makes it the largest digital content store in the world.

Still, the iTunes Store story begins with music. So it's appropriate that, on the tenth anniversary of the store's opening, we're on the cusp of another shift in digital music, with streaming looking to replace downloads as the next listening experience. But before we think about what's next, let's look back at what was.

The way we were

Apple wasn't the first company to think of selling music online. Before the iTunes Music Store hit the scene, you could subscribe to services like Rhapsody, PressPlay or eMusic, which offered a certain number of downloads per month. But most of these songs came with strings attached – limits on what you could do with that music and where you could listen to it.

As a result, many turned to other avenues for getting their hands on digital songs – namely, the peer-to-peer networks that emerged in the wake of the file-sharing service Napster. Through networks such as Kazaa and LimeWire, you could find and download almost any individual track you wanted. You didn't have to buy an entire album or deal with digital rights management (DRM) that prevented you from listening on your MP3 player or burning it to a CD. And you didn't even have to pay for it, which was, in almost every case, illegal.

Many start-ups tried to find the right mix of selection, ease of use, and price to entice listeners into legal digital music, says Russ Crupnick, an analyst with research firm NPD Group. Most failed. It took Apple to find the magic combination. To put it another way, Apple may not have invented the notion of selling digital music, but it certainly made the process easier than anyone who had tried before it.

Changing the music industry's tune

Crupnick credits Apple's digital music ecosystem with making the difference. The company didn't just launch a store – it built that retail effort directly into its iTunes music software and made sure the songs you bought worked seamlessly with the iPod.

Apple also convinced record labels to buy into important innovations as well, including letting iTunes shoppers transfer files to more than one device and burn tracks to CDs (with some limitations, of course). Before the iTunes Music Store's arrival, you could do those things only if you had ripped music from a CD or downloaded a track without DRM.

"Apple dragged the music industry by the scruff of its neck into the digital age," says Mark Mulligan, music industry analyst and founder of Midia Consulting. Digital downloads also let listeners pick and choose which songs they wanted, a dramatic change from the album-centric models we'd grown used to from

records, tapes, and CDs. "iTunes enabled people to skip the filler tracks and go straight to the killer tracks," he adds.

Want to know how successful the iTunes Music Store was? Look at all the copycats it spawned. Microsoft, Virgin, Real Networks and Sony all started digital download services. But only iTunes worked with the iPod, and only iTunes remains relevant 10 years later. Earlier in April, NPD reported that Apple still enjoys a 63 percent share of the paid music download market.

The store enjoyed success right from the start. People rang up one million downloads from iTunes within the first week the store opened for business. That number grew to 25 million tracks by the end of 2003. These days, the milestone is 25 billion downloaded songs and counting.

Steve Jobs certainly saw the store as an early-on success. "When history looks back, the iTunes Music Store will gain recognition for being an incredible landmark in the music industry because it was the first time that online music could be sold really legally in a pay-per-download model, so good and easily and fun and fast and reliable," Apple's then-CEO told the UK's *Independent* in 2003.

A pirate's life

The iTunes Music Store came along at a time when piracy plagued the music industry. Crupnick says that at one point 50 percent of college students were using services like LimeWire to download tracks without paying for them.

Wider access to broadband gave piracy a boost, contends Josh Friedlander, vice president of strategic data analysis for the Recording Industry Association of America (RIAA). But that same access to broadband also made a legal alternative like the iTunes Music Store possible.

When it launched, tracks on the iTunes Music Store came with FairPlay, Apple's DRM. You could listen to a song on up to five computers and burn a playlist 10 times. That put some restrictions on users, but FairPlay didn't get in the way of listening to your music as much as other DRM schemes did, NPD's Crupnick says.

Still, some dispute what impact the iTunes Music Store really had on stopping piracy. In the first five years of its existence, piracy continued unabated. After all, Mulligan notes, not even iTunes could give pirates what they really wanted – unlimited music, wherever they want it, whenever they want it, for free. Analysts think continued litigation by the RIAA and rights holders, as well as the rise of free streaming options did more to stem piracy than Apple's music store.

Do the evolution

The iTunes Music Store changed the landscape of digital music instantly, but it also has evolved as entertainment and technology have changed. Consider some of these adaptations rolled out by Apple over the years:

- The iTunes Wi-Fi Music Store was introduced by Apple in 2007, as a way for iPod and iPhone users to buy music straight from their devices. These days, every iOS device ships with mobile stores for entertainment and apps pre-installed.
- Apple dropping DRM in 2009, following the lead of competing services like Amazon's MP3 music store.
- iTunes Plus, Apple's first foray (in 2007) into DRM-free music. It also offered songs encoded at higher bit rates for better sound quality.
- Adding more cloud-based services such iTunes in the Cloud and later iTunes Match to let you download tracks you've bought to any of your devices.

iTunes has also moved beyond music. These days, it's more of an entertainment store, where you could buy or rent movies and TV shows, download books, and, of course, load up on mobile apps.

Apps, introduced as a section of the iTunes Store in 2008, also wound up creating some competition for its music business. Through apps like Pandora, you could stream music over your iOS device. Now, with subscription services like Spotify and Rdio, you have access to millions of songs, anytime, anywhere.

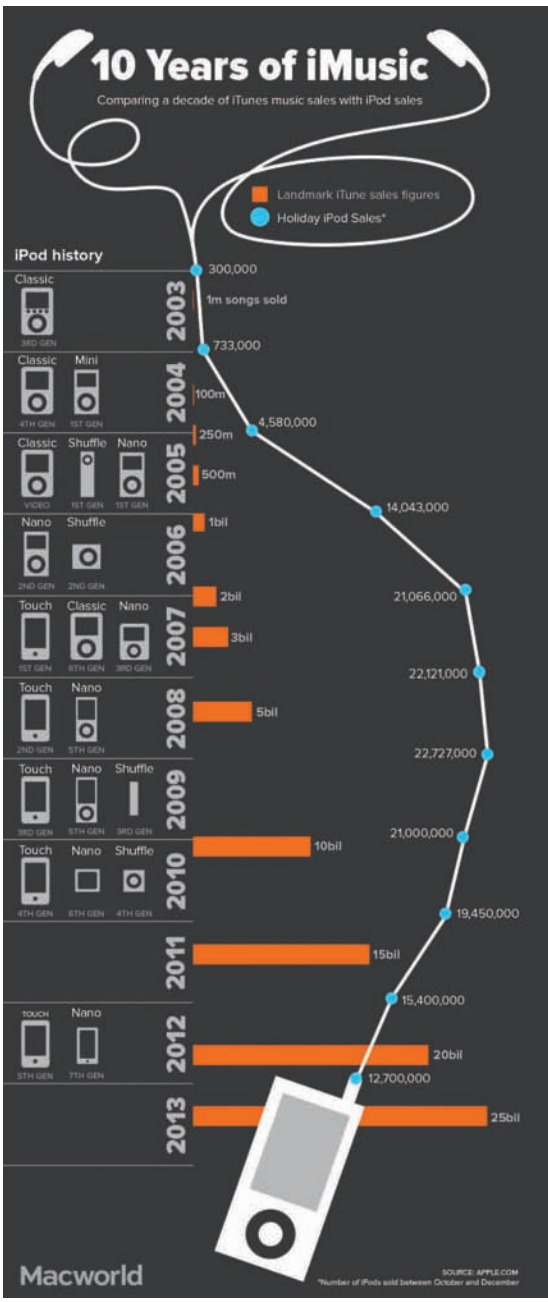
In the stream of things

With the iTunes Store, Apple took the existing physical record store model and made it digital. And while the iTunes Store is still about ownership, it's a transition technology, Mulligan says.

Analysts agree that the future of music lies not in ownership, but in access. In other words, you won't have a copy of a song on your device, but you'll stream it on demand when you want to hear it – essentially the model Spotify, Rhapsody, and Rdio follow.

What place does Apple and the iTunes Store have in this brave new world? Expect Apple to remain dominant in digital music for a long time to come. iTunes is now entrenched in the way that many people think about music.

Whether Apple creates a long-rumoured iRadio streaming service of its own, or, through iTunes, it just continues to be the platform other apps use to provide those services, it will remain in the middle of digital music because it makes the devices that people use to listen – iPhones and iPods, especially.



Braven BRV-1

PERFECT FOR WHEN THE GOING GETS TOUGH



We liked the sturdy aluminium casing of the Braven 650 we reviewed a few months ago, and Braven has taken that approach to extremes with its new BRV-1.

In fact, the BRV-1 is one of the most rugged portable speakers we've seen so far. The chunky little speaker measures 115mm wide, 60mm high and 85mm deep, and weighs just 338g – less than a tin of beans – so you can easily slip it into a backpack when you're heading outdoors.

Despite its size, the BRV-1 is certified as 'IPX5' water resistant – a test that requires it to survive "12.5 litres of water per minute being hosed on it at 30kPA pressure from a distance of 3m". That means it'll certainly cope with splashes in the bathroom, as well getting a soaking on the beach or being dropped on a ski slope.

The ports on the back are covered with a protective cap, and the sides of the unit are coated in shock-resistant rubber to protect it from being damaged if dropped. It uses Bluetooth to provide a convenient wireless connection for your music, and there's a built-in noise-cancelling microphone so you can use it as a speakerphone for voice calls.

The sound quality is good too – loud enough to be heard when your friends are mucking around on the beach, and with better bass than most speakers of this size. The battery should last for about 12 hours at medium volume, and there's also a USB port that allows you to top-up your iPhone battery occasionally.

VERDICT

Not everyone will need such a rugged speaker, of course, but if you spend a lot of time on the beach, hurtling down the piste or tramping across the Pennines, then the BRV-1 will be the perfect musical companion for your outdoor adventures. **Cliff Joseph**

Water music
The rugged BRV-1 is water- and shock-resistant

£149.99
Braven • www.braven.eu
Product page: bit.ly/ZaCZ9L

RATING ★ ★ ★ ★

LIKES:
- Extremely rugged design
- Good sound and battery life

DISLIKES:
- Expensive
- Bass could still be stronger

Supertooth Disco Twin

STEREO BLUETOOTH SPEAKERS THAT CAN MOVE FROM ROOM TO ROOM



There are some great compact speaker systems available these days, but even the best one-piece speakers still tend to produce quite poor stereo separation. Supertooth's Disco Twin solves this problem with a pair of compact Bluetooth speakers that provide proper stereo separation between left and right channels.

The vase-like speakers are neatly designed and only measure about 180mm high, so it's easy to position them on a shelf or table in any room. They also include rechargeable batteries, so you can pick them up and move from room to room without having to muck about with power cables and leads.

Each speaker provides 16W output (32W total), and they're more than loud enough for listening to some music at a dinner party. Sound quality is good too – clear and detailed on higher frequencies, and with reasonably firm bass given the compact design.

And, of course, it's nice to hear speakers with decent separation for a change. The batteries only last for three to four hours at full volume, but half-volume is fine for listening to music most of the time and that should stretch the battery life to a full 10 hours.

There's one thing to watch out for, though – the Disco Twin speakers look almost identical to Supertooth's Disco 2, but there are differences between the two, so don't confuse them when you're ordering online.

VERDICT

The Disco Twin system is quite pricey for what is, after all, a fairly modest stereo speaker system. However, the Bluetooth connectivity and rechargeable batteries are very useful, so this is worth considering if you're looking for a versatile set of speakers you can use in more than one room. **Cliff Joseph**

Twin powered
Supertooth's speakers offer decent audio quality

£179.99
Supertooth • supertooth.net
Product page: bit.ly/15QXaSq

RATING ★ ★ ★ ★

LIKES:
- Bluetooth convenience with good stereo separation

DISLIKES:
- Expensive
- Fiddly Bluetooth pairing

Cambridge Audio Minx Air 100

COMPACT, COLOURFUL SPEAKER



The Cambridge Audio Minx Air 100 wireless speaker offers both AirPlay and Bluetooth playthrough options, and is geared up to accept audio feeds from almost any music or AV source. It certainly isn't small, but its girth is mitigated by the gentle curves that conceal the wired analogue inputs and mains connection at the back.

The sturdy construction contrasts with the bright and detailed audio it offers. Despite being a single-speaker unit, there was plenty of volume to fill a 15 x 15ft room. You'll need to press the squidgy volume buttons repeatedly to make much difference to the output levels, though, so use your iPad or iPhone volume controls instead.

Connectivity is one of this speaker's main strengths. Getting the Minx Air 100 to play songs from your iTunes library couldn't be easier. Just tap the music icon at the top left of the Minx Air app (free, **bit.ly/11yjdx2**) and select speaker as the output device.

Whenever you switch between output modes, the app searches for the Air 100 speaker, but changing radio stations or iTunes tracks is seamless. There are 10 radio station presets available through a single tap on the app screen, plus the option to search for online radio stations by location or genre. Up to five presets can be added. We particularly liked the option to specify a minimum bitrate for online radio station search results. Superior audio codecs such as AAC are supported, too.

VERDICT

Cambridge Audio has designed a fantastic wireless speaker that produces great sound and the option of playing your music through any device you choose. We're not completely sold on the Minx Air 100's looks, but the solid build and sonic output are impressive. **Rosemary Hattersley**

Upstanding behaviour
The Zooka can double up as an iPad stand, but this places the controls out of easy reach

£329
Cambridge Audio • bit.ly/v5z88j
Product page: bit.ly/Y9Z1KN

RATING ★ ★ ★ ★

LIKES:
- Superb build quality
- Rich sound

DISLIKES:
- Zeppelin, Philips and B&O make prettier AirPlay speakers
- Ineffective volume controls



Just Mobile Xtand Go

£26.99 ★ ★ ★ ★

www.just-mobile.eu • READ MORE: bit.ly/100o3zY

Just Mobile's Xtand Go is an in-car mount for your iPhone 4, 4S or 5, and in testing we were pleased to see they fitted securely in place. You'll need to assemble the device when you take it out of the box, but this doesn't take long. Once you've put it together, all that's left is for you to decide whether you'd like it on the dashboard or the windscreen. If you decide on the former, the Xtand comes with three sticky pads, which you attach to the bottom of the device and then the dashboard. If you prefer to fasten it to a windscreen, you simply use the provided suction cup – a quick release switch on the bottom lets you change its location. If you're looking for an in-car mount, then the Xtand Go is a solid option. **Rob Grant**



Moshi Origo for iPad

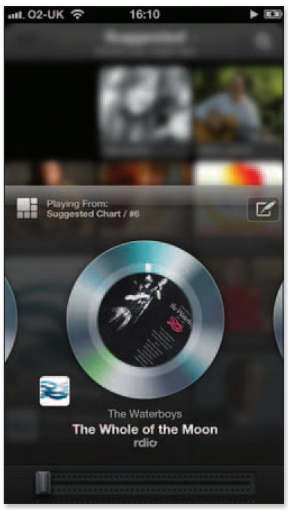
£26 ★ ★ ★

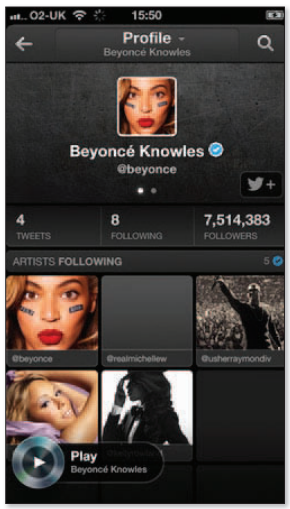
moshimonde.com • READ MORE: bit.ly/17XypAM

Featuring a honeycomb design on the inside for maximum shock absorption, this silicone soft-shell iPad case is bulky, but not heavy, and feels very protective. The back has a slight curve to it, but the added thickness and curvature provides extra grip. The Origo case comes right up over the front bezel of the iPad for extra protection against facedown drops, and does so without limiting functionality. There are cut-outs for all of the ports and cameras. The volume and Sleep/Wake buttons have rubberised push-through button overlays, which allow their full use. If you need to plug your iPad into any kind of dock-cradle accessory, the bulky Origo may not fit, but the soft shell is easy to take on and off. **Karen Freeman**

Twitter #music

DISCOVER NEW MUSIC VIA WHAT YOU AND OTHERS POST TO TWITTER. CONFUSED? LET US EXPLAIN





£17.49
Version: 1.1
music.twitter.com
Download: bit.ly/11gMcBn

RATING ★ ★ ★ ★

LIKES:
- Very responsive
- Fast release of first update

DISLIKES:
- Jog wheel has no inertia
- Can't customise interface

The first thing to know about Twitter #music is it's not just another music-streaming service. You can use the app to listen to music on your iPhone or iPad, but only if you also sign up for Spotify or Rdio (which you can do via the app). But if it's those apps that play the music, #music tells you what you might like to play. And it does so based on what people are saying on Twitter.

It's a complementary service, not a challenger to Twitter itself. So you can't post within the app or even follow artists. Instead, you can tweet about the songs you are playing, and follow artists' Twitter feeds. This also means Twitter #music is totally transient. You can't tag or save music to listen later. It simply shows you what's hot right now.

Using Twitter posts to discover music is a neat idea. After all, where once we went to record shops and browsed through album covers to dig out new tracks, now songs are suggested to us by an algorithm based on what we buy.

SPLIT PERSONALITY

Install and open the #music app and you'll find it's split into four sections. Each comprises picture tiles representing music artists – 140 of them (geddit?). Tap the tile and it increases in size to display the song and the artist. If you have signed in to Rdio or Spotify, you can play that track from the app. 'Popular' shows you the 140 artists currently being discussed the most on Twitter. 'Emerging' is what #music considers 'Hidden talent found in the Tweets'. Scroll over to 'Suggested' and you'll find the music Twitter thinks you must like based on your social musings.

The first two areas, Popular and Emerging, are interesting in an 'oh that's what's most popular on Twitter' kind of way. It's like looking at what's trending on Twitter proper. At this stage at least, Twitter #music feels similar. Are you really going to play a track because it is the most popular on Twitter? Have you met the people on Twitter?

Certainly, there's no more reason to play them than there is to go out and buy the top 10 singles (if such a thing still exists). You can link through to the artist's Twitter profile, but we're not sure we would want to play any musician's track based on their tweets.

In our view, unless you are desperate to listen to something popular, we can't really see how Emerging or Popular would be that useful. They simply show what is new and popular. Interesting, but not a great way of finding new music.

In the mean time the other two areas, Suggested and #NowPlaying have more potential. But potential is all, for now. Suggested shows you artists you might like based on your posts and who you follow. In our case it was fairly accurate, although oddly skewed toward classic folk and pop.

Unless you are desperate to listen to something popular, we can't see how Emerging or Popular would be that useful

VERDICT

Twitter #Music is a nice idea, but it feels very early in the day. It would be good if Twitter had sorted out a music-provider partner. It's clunky to have to sign in to a third party. And it would be good to see more advanced features such as the ability to tag music to listen later, and to see other tracks by the same artist.

And unless sufficient of your Twitter contacts use the service to make it truly relevant, it will simply be a list of the most popular tunes with the vast numbers of people who use Twitter. Right now, realistically, that means all your friends have to be iPhone users. Still, Twitter #music is brand new and free, so take it for a spin. **Matt Egan**

READ MORE: bit.ly/15pT8AC

Traktor DJ

THE MAC'S FINEST DJ APP COMES TO THE iPAD



Redesigning complex Mac software so it works within the confines of a touch interface and the limited processing power of the iPad is no easy task. Native Instruments deserves particular acclaim, then, for its remarkable efforts with Traktor DJ.

Traktor for the Mac is a hugely popular DJ tool, chock full of advanced functions for the seamless blending of digital dance music. The iPad version retains much of its functionality, with a well thought-out interface that lets you manipulate tracks with your fingers as efficiently as the full-fat version does.

Music is loaded from your iPad's internal storage on to two virtual decks. After analysing the audio, Traktor DJ attempts to guess the tempo, often accurately. A button in the top right lets you 'grid' each track, so the two songs are in perfect alignment. Alternatively, a Sync button takes away much of the hard work.

Setting cue points, loops and slices is easy, and this data can be shared with Traktor on the Mac via Dropbox. Hit play, bring the volume up and with luck the result will sound almost as good as Fatboy Slim.

VERDICT

Traktor DJ is a remarkable app, but has a few limitations, such as the inability to bend a track's pitch, but this doesn't detract from the hours of fun it provides. **Orestis Bastounis**

READ MORE: bit.ly/12xMOSy

£13.99
Version: 1.1
www.native-instruments.com
Download: itun.es/i6JZ65K

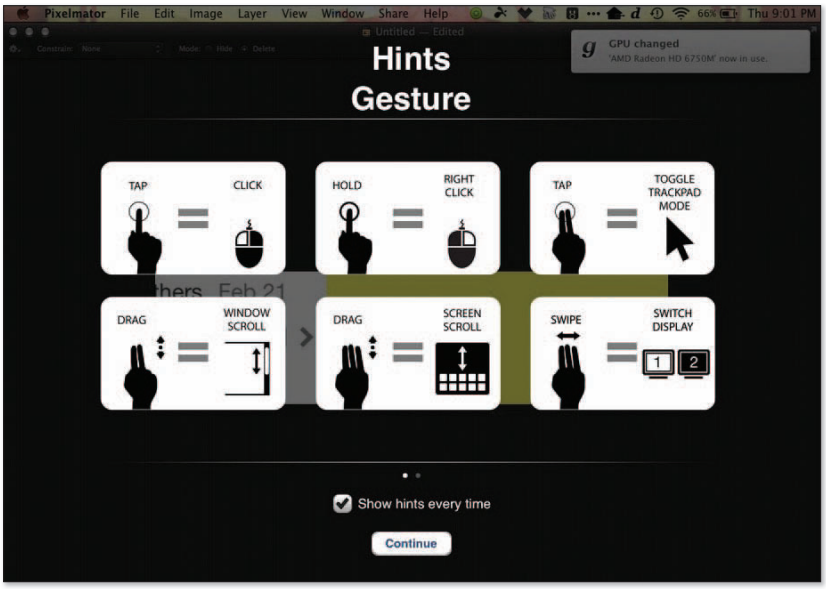
RATING ★ ★ ★ ★

LIKES:
- Intuitive interface
- Effects and filters add spice

DISLIKES:
- No pitch bend

Splashtop 2

HANDY REMOTE DESKTOP APP



The iPad and iPhone are powerful devices, but they can't do it all yet. We still rely on traditional computers for a number of tasks, especially gaming and Flash videos. Splashtop 2 is a remote desktop app that promises to fill that gap, bringing the full capabilities of Macs and PCs to mobile devices.

To begin, download the Splashtop Streamer for the computer(s) you would like to access. Once installed, you'll need to create a login. While the original Splashtop required a Google account for remote access, Splashtop 2 now has its own login system.

One of Splashtop 2's built-in profiles is for Diablo, so we fired up Diablo 3 on a MacBook Pro and tested the app on an iPad. The controls worked better than we'd expected, but unfortunately, the frame rate was too choppy to make for a good experience.

Gaming is one of Splashtop's intended purposes, but we don't recommend it. Video is another matter, and found that Flash video stream on Splashtop was flawlessly transmitted, both audio and video.

For regular desktop operations, Splashtop performs admirably, featuring a full onscreen keyboard, as well as onscreen arrow keys.

VERDICT

Even in its second iteration, Splashtop has issues, including mediocre performance and questionable support. **Josh Centers**

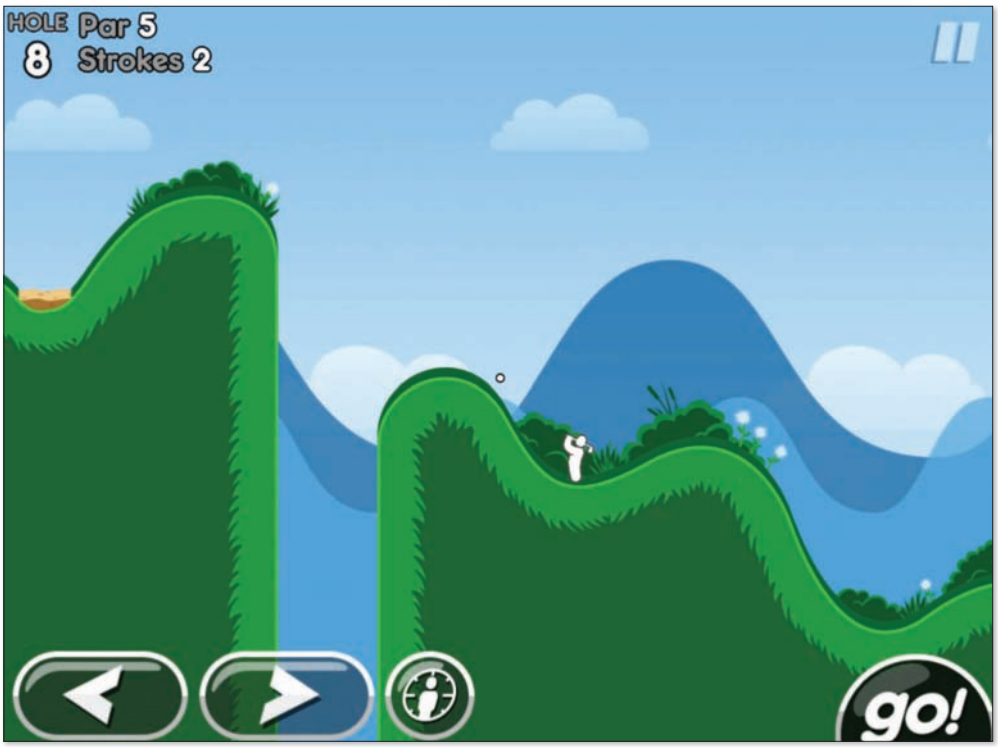
READ MORE: bit.ly/Y9sVnv

£6.99/£2.99
Version: 1.1
www.splashtop.com
Download: itun.es/i6xf3fJ

RATING ★ ★ ★

LIKES:
- Video streams flawlessly

DISLIKES:
- No good for gaming



69p
Version: 1.0
Noodlecake Studios
www.noodlecake.com
Download: itun.es/i6x34dC

RATING ★★★★★

LIKES:
- More complex courses
- Upgradable stick figures
- iCloud syncing between devices

DISLIKES:
- Unlikely to attract new fans

Super Stickman Golf 2

CLUB-AND-BALL SEQUEL HITS A HOLE IN ONE

The sequel to the most popular stick-figure golf game (okay, the only stick-figure golf game) does a great job of retaining what was so appealing about the original, while adding more of everything: more stick figures, more courses, more power-ups, and, perhaps most importantly, infinitely more hats.

The mechanics of the game remain largely the same: you're a stick figure golfing on a variety of courses. To make a shot, you choose angle and power until you get the ball in the hole. Your goal? To beat par, while avoiding water traps, sand pits and other obstacles.

This time around, though, the courses are a little more complex. You'll find some pink goo that your shots will stick to, lasers that will zap your ball and cost you an extra stroke, and even teleportation portals.

You can now upgrade your stick-figure golfer, dressing up as a mummy, a ninja, a zombie and so on. These don't bring anything in the way of in-game advantages to your play, but they do add a bit of fun, and it can be handy in the multiplayer mode to help distinguish you from your opponents. If it's an in-game edge you're looking for, however, you'll find it primarily in the form of hats, ranging from a pirate hat that turns all water traps to blood to a pope hat that... well, you'll have to unlock that one to find out.

Another major improvement is a new turn-based multiplayer mode. Don't fret: the original race mode, where you and all your friends are competing to be the first to sink your shot, is still around; the new turn-based mode is for times when you might not have 10 minutes to kill in a single game. Instead, you play through a hole, and then your opponent shoots on the same hole and tries to beat your score.

Really, though, you could probably sell us on just one new feature: thanks to iCloud, your progress is now synced between multiple iOS devices. Which means you can play a round on your iPad, unlock a new hat, then jump over to your iPhone to enjoy the same fancy headgear.

VERDICT

More of the same great fun, with new challenges, new opportunities, and handy new features. But if you weren't a fan of the first game, Super Stickman Golf 2 is unlikely to change your mind. **Dan Moren**

READ MORE: bit.ly/Yv7TfI



Par for the course
Once you've completed a course, you'll be awarded experience points



Knights of Pen & Paper

DROLL ROLEPLAYING GAME

£1.49
Version: 1.45
Download: itun.es/i6JC68J

RATING ★★★★★

LIKES:
- Lots of funny, self-aware dialogue
- Simple gameplay
- Addictive

DISLIKES:
- Some iffy translation work

A real cutie of an RPG, this. Opting to recreate the entire Dungeons & Dragons fantasy roleplaying experience rather than just the glamorous bits, KoP&P pulls back the camera to reveal the dork squad sitting there with their 12-sided dice and cans of Vimto, directing the heroic actions playing out on the imaginary stage in front of them.

So instead of just picking a mage, you pick a mage and the spotty urchin who will roleplay as him, weighing up the various powers provided by each social misfit. And as the adventure proceeds, these mismatched poindexters constantly undermine the story by talking about phone calls and pizza.

It's just brilliant, really: charmingly retro in look, funny (despite some odd translation from the original Portuguese), and both compulsive and naturally bite-sized: a mechanism requires you to wait real-world hours for weapon upgrades. **David Price**

READ MORE: bit.ly/12x23LD



Cut The Rope: Time Travel

POLISHED IF SAMEY SEQUEL

69p/£1.99
Version: 1.0
Download: itun.es/i6JC5LV

RATING ★★★★

LIKES:
- Wonderfully balanced puzzles
- Cute look of historical monsters

DISLIKES:
- Pretty similar to the original Cut The Rope
- Veterans will find it fairly easy

Considering how many superb extra levels ZeptoLab has added to Cut The Rope for free, it would be churlish to begrudge it the opportunity to make a bit of extra coin with this themed bundle. The new gameplay mechanics are only slightly more significant than those you'd get with the average free update, but it's a big load of fun for 69p.

As before, the aim of the game is to manipulate various physics effects to bounce, swing or float striped sweets into the waiting mouth of a hungry monster. Except this time around there are two sweets and two monsters: the original Om Nom, and a historically costumed version of him that represents the era you're currently tackling.

This adds a little complexity to the puzzles, as do some of the new mechanics – uncuttable chains, little pirate bombs and a 'freeze time' button – but really this is more of the excellent same. Well worth a go. **David Price**

READ MORE: bit.ly/17Zi3cB



Sushi Mushi

MATCH UP RAW FISH, DEFEAT YOUR FRIENDS

FREE
Version: 2.1
Download: itun.es/i6JC6HC

RATING ★★★

LIKES:
- Fast-paced and exciting
- Novel take on match-three puzzle games
- Fun, strategic action

DISLIKES:
- Pretty easy – maybe too easy

Combining Japanese cuisine with mobile gaming (but without the fear of dropping your iPhone into a pot of soy sauce), Sushi Mushi is a novel spin on the classic match-the-tiles puzzle.

Playing as the adorable monster of your choice, you challenge your opponent to a sushi-matching competition. You can either challenge a random opponent or invite friends through Facebook or your contact list.

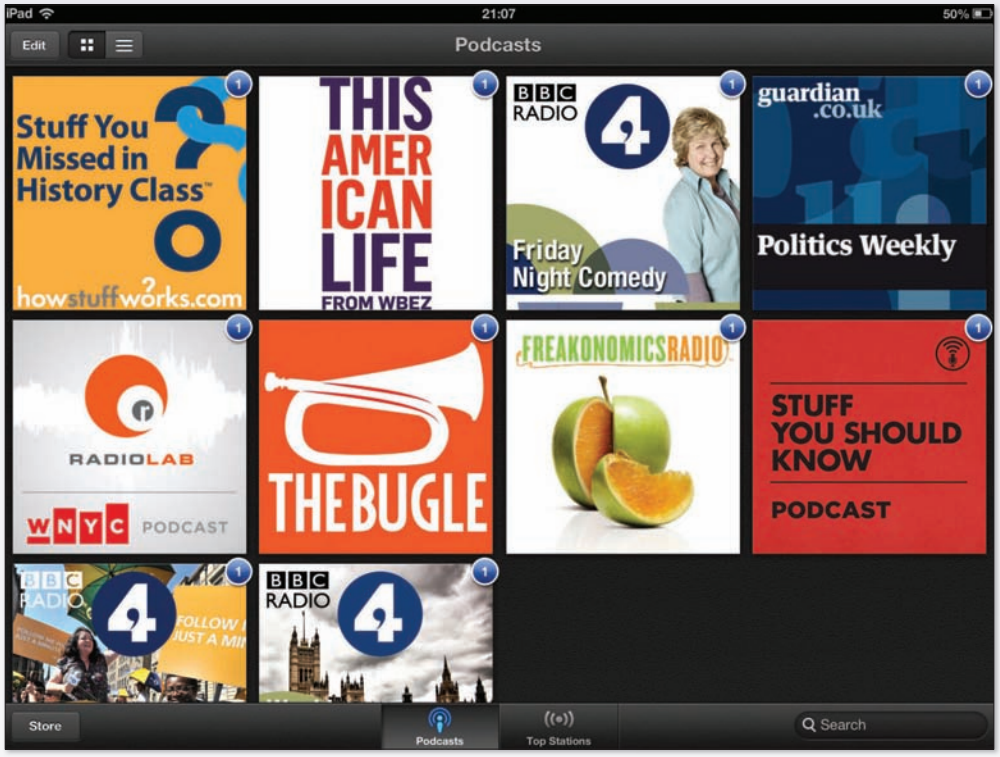
Within a few rounds, you realise that Sushi Mushi isn't a hard game, but it's fun, and there's actually some strategy to it. In no time you'll be foregoing the easy three-piece matches for the more challenging, and rewarding, 17-piece tsunamis. And although you'll hate to admit it, when the in-game music switches to its 'time is almost up' tune, your eyes and finger will be feverishly darting across the screen in hopes of grabbing those remaining raw fish. **Jeff Sandstoe**

READ MORE: bit.ly/14jDW4e

Beginner's guide to the wonderful world of podcasts

Podcasts passed you by? Here's why and how you should set that right, right now!

BY ALAN MARTIN



Podcasts galore
The library page looks a bit like iBooks when filled up... only, y'know, with endless free content

VITAL INFO

DEVICE: iPhone/iPad
DIFFICULTY: Beginner
TIME REQUIRED: Varies

WHAT YOU NEED:
- Podcasts (free, **itun.es/i6xq37g**)
- iOS 5.1 or later

EXPERT TIPS

What about Vodcasts?
The far less catchy titled 'vodcasts' are video podcasts – simply put, video clips you can download.

Want more choices?
Neither the Podcasts app or Downcast doing it for you? Other popular choices on the App Store include Instacast (£2.99, **itun.es/i6x34sD**), Pocket Casts (£1.49, **itun.es/i6xq37K**) and iCatcher! (£1.99, **itun.es/i6x34sF**). Shop around and see which works for you.

Considering how brilliant they are, it's surprising Apple doesn't shout about podcasts from the rooftops. While apps have become *the* buzzword, podcasts are sidelined, and that's a crying shame: whatever your interest, there's something for you, and the best part is they're almost entirely free to download and listen to as often as you like.

But let's back up: what is a podcast? It's easiest to think of them as radio programmes (and many of them are syndicated radio shows), which you can download straight to your iOS device and listen to at your leisure. They can be professional or amateur, and cover all topics and niches from board games to knitting. Whether you want to keep up with the news, giggle uncontrollably on the bus, or learn a new language, there's a podcast for you.

GETTING STARTED

The best place to start is with Apple's official Podcasts app. Up until last year, podcasts lived quite happily within 'Music' on iOS, but Apple changed this with a dedicated app recently updated to version 1.2 (**bit.ly/Zb5Ui2**). It's free and a good starting point that you can upgrade from if you find it too limiting.

On loading the app, you'll be faced with a daunting array of podcasts competing for your attention, in a style instantly familiar to App Store regulars. Feel free to dive right in here using the category tabs at the top of the page, or use our handy list of suggestions combined with the search bar to instantly track down some top listening.

If you're finding this a bit overwhelming, a more manageable way of doing things is to turn to the 'Top Charts', which lists the most popular podcasts. Alternatively, turn to your library (this will be empty at this juncture) and use the tab at the bottom to turn to 'Top Stations', which will allow you to cycle through topics easily.

It's all presentation over functionality though, with a bunch of oversized icons you have to tap for more information, but with patience you'll find some shows to



Reel to reel
Tapping a playing podcast in the official app brings up a tape-reel style graphic

pique your interest. When you find a show, tap 'subscribe' and it will be added to your library, with the most recent episode downloading immediately.

Once you've downloaded some podcasts, your library will begin to fill up with a grid of icons, and from there it's simply a case of tapping each show and picking the episode you want to listen to. If you find a programme that isn't for you, press 'Edit' in the top left-hand corner, and tap the little 'X' next to the subscription you want to remove.

One word of caution, though: episodes can be hundreds of megabytes in size, and with low-end iOS devices only having 16GB of memory, they can eat into your space. The Podcasts app allows you to auto-delete episodes after they're listened to, but by default this is switched off and it's hidden away for every show you subscribe to: simply pick the show and look for the little cog icon near the top. Tapping this allows you to turn off auto-downloads and change the way it stores episodes. If you don't like this kind of black magic automation, you can manage them yourself: on the list of episodes simply swipe from left to right across the episode you no longer want, and a delete button will pop up.

ADVANCED APPS

So, you've got into podcasts in a big way, and want to be more efficient: it's time to look at the third-party podcast apps. Our favourite of these is Downcast (£1.49, **itun.es/i6xq37M**), which is a quality app that offer features Apple's free solution simply can't match. It allows you to schedule downloads to Wi-Fi without eating into your data allowance at times of your choosing, create playlists, stream episodes without downloading, and much more. It's significantly better than the Apple app for serious podcast listeners.

WHAT SHOULD I LISTEN TO?

The best thing about podcasts is that anyone can make one. The worst thing about podcasts is that anyone can make one. Exploration is half the fun, but here are some of our favourites to get you started:

This American Life
A brilliant radio show, syndicated into a weekly podcast. Each week a topic is picked, and the hour is filled with investigative journalism, performance art, stories, and more. Sometimes heartbreaking, sometimes hilarious, but always fascinating.

The Bugle
Political comedians John Oliver (The Daily Show) and Andy Zaltsman (Political Animal) hilariously outline the week's news in their own brilliantly satirical style. It puts mainstream satirical comedy to shame on a weekly basis.

Stuff You Should Know
Ever wanted to know where the best place on the body to get shot is? Or how to start up your own country? Or do you simply want a full history of the Muppets? Stuff You Should Know is for you. There are over 300 episodes on incredibly diverse topics, so you're bound to find something of interest.

Macworld
Our friends at Macworld US discuss the latest goings on in the world of Macs, MacBook and iOS in an Apple-friendly show.

Freakonomics Radio
If you're familiar with the *Freakonomics* books, you know what to expect here in this very polished radio show from its authors. If not, it's a sideways look at economics, but nothing like as dry as that sounds, with topics such as 'The economics of suicide' to why 'drunk walking, mile for mile, is more dangerous than drunk driving'.

Football Weekly
Offering in their own words 'puns and punditry', this twice-weekly football podcast from *The Guardian* will keep you up to date with all the latest football news with banter and discussion.

Comedy of the Week
The BBC put loads of its radio out as free podcasts (unlike most they delete them after a week, so make sure you don't set your app to auto-delete), but our pick of the bunch is Comedy of the Week. Variable quality, but it introduced us to the excellent Ed Reardon's Week, so we can't complain too much.

Working Mac

Tips, Tricks, and Tools to Make You and Your Mac More Productive



Our favourite Mac cleanup tips

Easy ways to keep your Mac organised

BY MACWORLD STAFF

When it comes to keeping organised, don't stop at your wardrobe, kitchen cabinets, and garage. Spare a bit of time for your Mac, too. A tidy Mac will make your computing life easier, helping you find what you need more quickly and ensuring that your hard-drive space isn't eaten up by unnecessary files. Here are some of our editors' favourite tips.

Declutter your desktop

Last year we discovered Light Pillar's Desktop Tidy (£2.99, bit.ly/U45nve). This handy utility cleans up your Mac's desktop, keeping it free of clutter. It stores all desktop files and folders in a hidden Shadow Desktop, which you can access from the menu bar or in the Finder. That way, every file you download, each screenshot you capture, and every image you drag and drop to your desktop will be stored and filed in an easy-to-reach location. The utility quietly works its magic at scheduled intervals – as often as every minute or as infrequently as every seven days. It even organises desktop items by file type, which makes finding and renaming files easy. – LEAH YAMSHON

> Often an app creates files and folders outside of the app's main folder, which makes those items difficult to hunt down and toss out

Delete unnecessary disk images

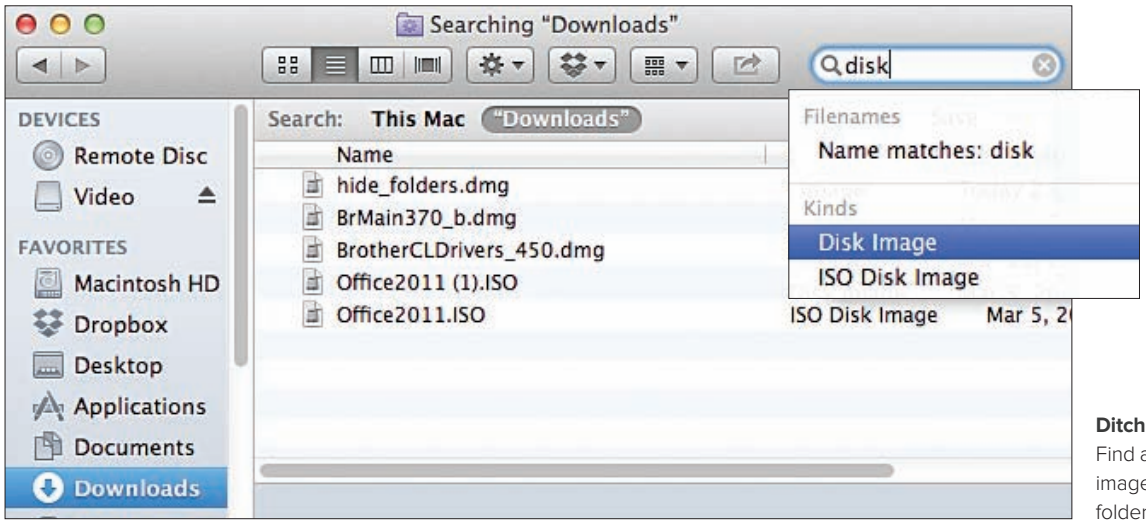
For most people, the Downloads folder is a dumping ground where files pile up in forgotten heaps. Go to the Downloads folder in the Finder (select the *Downloads* folder in your user folder) and begin to type **`disk image`** into the search box until a drop-down list of suggestions appears. Select *Disk Image* under the Kinds header. Now, delete all of those downloaded DMG files that are just sucking up space. – JASON SNELL

Empty out space-hogging Mail downloads

At Macworld, we get sent quite a few attachments via email – PDFs, ePub eBooks, Word documents, images – you name it. Most of the time we save those files to the desktop or the Downloads folder, but on occasion we make the mistake of double-clicking a file. When you do that, the document saves itself to your Mail Downloads folder, hidden away in your Library file. Double-click enough files, and that folder can balloon in size. That's why we make sure to check it and empty it every year or so.

The easiest way to do this is to use Spotlight – press ⌘-<Spacebar> to see a search field appear – and then type **`Mail Downloads`**. Click the *Top Hit*, which should be the Mail Downloads folder.

If this method doesn't work for you, try getting to the folder the long way. In the Finder, select *Go ➔ Go to Folder*. In the text field that appears, type **`~/Library/Containers/com.apple.mail/`**



Ditch the disk images Find all those leftover disk images in your Downloads folder and clean them out.

`Data/Library/Mail Downloads`. Click *Go*, and a Finder window will open showing the Mail Downloads folder.

Once you get to the folder, you can select all files and delete them, or move any files you want to keep for awhile to a more permanent location – for example, the Downloads folder. – SERENITY CALDWELL

Keep a clean cache

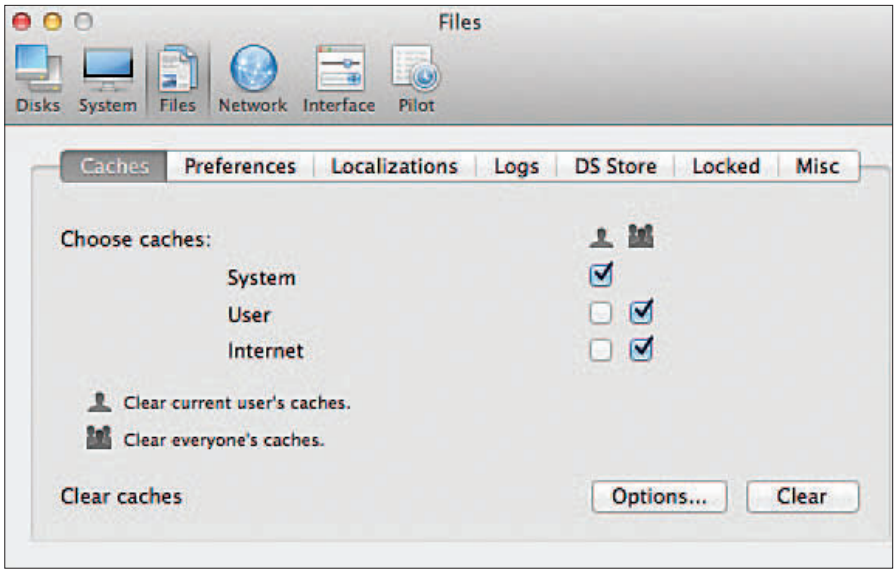
We've all heard the advice to empty our cache when we encounter problems with a web browser. A Mac stores lots of info – not just browser-related details – in files called caches. A *cache* file allows for quick access to the data it contains, reducing the need for your Mac to fetch the data from the original source all over again. Unfortunately, the cached information can become corrupted, or otherwise problematic – for example, the data might become obsolete if the version on the website gets updated, or you may notice that a file's icon doesn't look quite right in the Finder.

Though you can manually look for some of OS X's most commonly used cache directories (*username*/Library/Caches is a good place to start), plenty of tools can handle this job for you. Maintain's Cocktail (www.maintain.se/cocktail) is among the best of them. Not only can it clear your caches, but it can also perform assorted other maintenance tasks, such as deleting your browser's cookies, looking for corrupted preference files, rebuilding certain databases, and much more. You can download a free version that's good for up to 10 launches; but at $14 (£9), the paid version is a pretty good buy. – DAN MOREN

Purge unwanted apps

As writers who constantly review products for Macworld, we regularly play around with new apps and then delete them once we're done. Usually, we can drag an app from the Applications folder to the Trash, but often an app creates files and folders outside of the app's main folder and in various locations on the drive, which makes those items difficult to hunt down and toss out. For this reason, we use AppTrap (onnati.net), a free utility that installs as a System Preference pane and runs in the background.

When you delete an app, AppTrap finds the associated files and folders, and moves them to the Trash – there's no need for you to root through your hard drive yourself. Sometimes, though, when your Mac is updating an app, you want to keep the associated files, but discard the old app; in this case, AppTrap will ask if you want to leave the files there (you do) or move them to the Trash. You can find other, just-as-capable utilities that do the same thing, but we've used AppTrap for years, and it has never given us any problems or affected our Macs' performance. – ROMAN LOYOLA



Clear the cache Maintain's Cocktail utility can clear out your caches and perform a bunch of other maintenance tasks, such as finding corrupted preferences files.

Be prepared for hard-drive failure

Take a few minutes now to prepare for emergencies.

BY TED LANDAU



When hard-drive disaster strikes, you need to start up your Mac from another drive in order to repair it. In days gone by, you typically would have booted from the install CD or DVD that came with your Mac (assuming you could recall where you stashed it) and then run Apple's Disk Utility from there. But today's Macs no longer ship with an optical disc – in fact most ship without any optical drive at all. So what do you do instead? Your best bet is to prepare ahead.

Create an emergency flash drive

An emergency drive contains only the essential software you need to boot your Mac and run troubleshooting utilities (such as Apple's Disk Utility). We recommend using a USB flash drive (8GB is sufficient) rather than an optical disc. Flash drives are superior both because they work with Macs that no longer contain an optical drive, and because you can update them as necessary.

The Recovery Disk Assistant method: One way to create your own emergency flash drive is by using Apple's Recovery Disk Assistant. This tool is simple to use, but it requires that you already have a dedicated partition on your Mac's hard drive called Recovery HD. If you installed Lion or Mountain Lion on a supported hard-drive configuration (your Mac must have an internal drive formatted with a GUID partition scheme), the chances are good that this dedicated partition is there.

You can check to see if you have the partition by restarting your Mac and then holding down ⌘-R; alternatively, restart while holding down the <Option> key. A screen should appear with Recovery HD as one of your options.

Why must you have a partition on your Mac to be able to create the emergency drive on an external device? It's probably because Apple Disk Assistant needs to use the data on the partition to create the external drive. If the partition is missing or corrupt, you'll see an error.

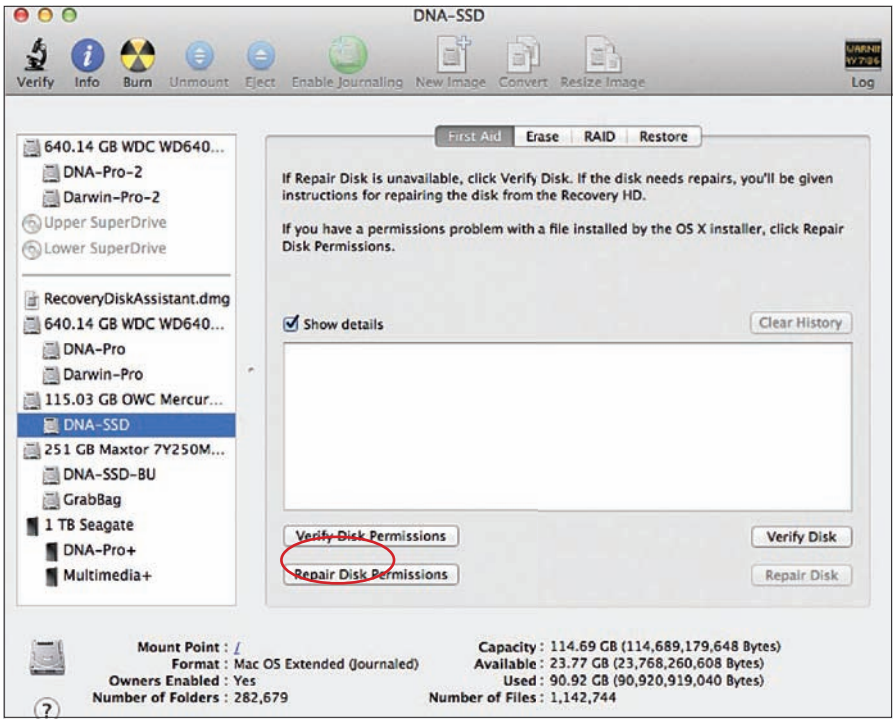
Download the OS X Recovery Disk Assistant from Apple's Support site (bit.ly/A3iwwC). Connect your USB flash drive to your Mac, launch OS X Recovery Disk Assistant, select the flash drive, and then follow the on-screen prompts. This is a quick and easy process.

The do-it-yourself method: Lacking the Recovery HD partition on your internal startup drive isn't the only reason you might want to skip using Apple's Recovery Disk Assistant. In some cases, an Assistant-created drive will work only with the Mac that made it (bit.ly/YwbBHk). Luckily, you can create an emergency flash drive another way.

First, you need a copy of the Install OS X Mountain Lion app. (Check for it in your Applications folder.) Even if you previously had this utility, however, it may no longer be on your drive, because OS X unhelpfully deletes it after you use it. If it is indeed missing, redownload it from the App Store by selecting *Apple Menu* ➔ *App Store* (or go to bit.ly/Q1nljh). You may need to hold down the <Option> key when choosing *Purchases* to make the app show up.

Next, you need to extract the *InstallESD.dmg* file from the app's package; this is the file you'll use to create the install drive. Right-click (or <Control>-click) the *Install OS X Mountain*

> At one time, you booted from the install CD that came with your Mac and then ran Disk Utility. Today, Macs no longer ship with a disc, so what do you do?



Repair your startup disk You can see the Repair Disk button, but you can't click it. How do you solve this? It pays to prepare ahead.

Lion app and choose *Show Package Contents* from the contextual menu that comes up. A folder will appear. Open *Contents,* and then open *Shared Support*. Inside you'll see the file *InstallESD.dmg*.

Launch Disk Utility (inside /Applications/Utilities) and drag the *InstallESD.dmg* file on to the left side of the Disk Utility window. In Disk Utility, select the file, and then click *Open* to mount the disk image in the Finder. Select *Mac OS X Install ESD* in the Disk Utility sidebar, and click *Restore*. Drag the *Mac OS X Install ESD* icon into the Source field on the right.

Now it's time to get your flash drive ready. This process will erase the contents on the flash drive, so make sure it no longer holds any data that you want to keep. Connect the drive and then find it in Disk Utility. Drag the flash drive into the Destination field. Click *Restore* and then *Erase* in the resulting dialog box.

You may need to enter an administrator username and password. It may take some time for the drive to format. For details, see *How to Make a Bootable Mountain Lion Install Drive* (go.macworld.com/mlbootabledrive).

This method may not work for everyone. For example, until OS X 10.8.3 came out, the version of Install OS X Mountain Lion available in the Mac App Store did not work with the 13in MacBook Pro with Retina display or with the latest iMacs. If a problem like this happens to you, you'll have to fall back on the Recovery Disk Assistant method.

In addition, note that if you have a new iMac with a Fusion Drive, Apple states that the "version of Disk Utility that comes with Fusion Drive is unique. Earlier versions of Disk Utility can't be used with a Fusion Drive."

Clone your startup drive

Looking for an alternative to making an emergency drive? Here's another way to go: make a clone of your startup drive. A cloned drive is an exact copy of the original, which means that you can boot from the cloned drive just as you can (or once could) from the original drive.

A cloned drive, of course, also serves as a useful backup of all the data on the original drive, and it will allow you to get up and running quickly if your internal hard drive bites the dust. See *Bulletproof Backups* (go.macworld.com/bulletproofbu) for more about why keeping a bootable clone of your hard drive on hand is a smart idea.

Clone your drive using a utility such as Bombich Software's Carbon Copy Cloner (£25.95, www.bombich.com), which we've tested. Note that you will need an external drive that's as big as your startup disk.

A cloned drive, of course, also serves as a useful backup of all the data on the original drive, and it will allow you to get up and running quickly

Ready for the worst

With your emergency measures in place, you're ready for the worst. If that day arrives, see *Dealing With Hard Drive Woes* (go.macworld.com/harddrivewoes) for advice about what you can do when your hard drive starts showing the first signs of trouble.



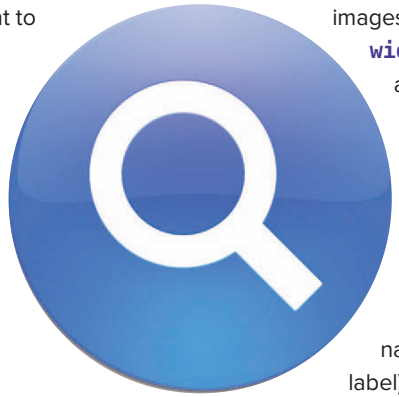
Emergency disk To create an emergency flash drive using Apple's Recovery Disk Assistant (in Lion or Mountain Lion), your Mac must have a Recovery HD partition.

Better Spotlight searches

BY DAN FRAKES

Apple's Spotlight search technology appears throughout Mac OS X, but the easiest and quickest way to access it is via the systemwide Spotlight menu. Notice the little magnifying-glass icon appearing at the far right end of your menu bar? Simply click this icon, and you can instantly search your hard drive for different kinds of files and data – even applications. Just select a search result to open it.

While typing a word or two – or even part of a word – will often be sufficient for Spotlight to find what you're looking for, sometimes it will find so many matching items the menu can't display them all (or it displays too few of the particular type of file you're searching for). The solution: use more-effective queries. Here are a few tricks to help you refine your Spotlight searches.



Use quotes

If you're searching for a phrase, the easiest way to tweak your query is to enclose your search text in quotation marks. This forces Spotlight to look for that exact phrase, rather than for the individual words it contains.

Use keywords

Spotlight also lets you designate the type of thing you're searching for using keywords. For example, if you're looking for a folder with the word *test* in its name, you can type **`test kind:folder`** (making sure not to type a space between **`kind:`** and **`folder`**) to restrict the search to folders. Other kinds include contact, email, image, movie, music, and PDF. By limiting the kind of item displayed in results, the menu can also show you many more results of that kind.

Specify names or sizes

Spotlight indexes the name, contents, and metadata of all your documents, so a document search for the word *test,* for example, will produce a slew of documents that have the word *test* in their contents or metadata. But instead type, **`kind:document name:test`**, and your results will include only documents with *test* in the actual filename. Spotlight even knows the dimensions of your images: Type **`kind:image width:580 height:388`** for a list of images that are 580 x 388 pixels.

More keywords

Other possible keywords include *author* (for an item's author metadata), *label* (for the name of an item's Finder label), *date* (for the item's creation or modification date), and *modified* (for the item's modification date).

Use OR or NOT

You can also use Boolean operators (such as OR and NOT) with keyword criteria: For example, **`date:today NOT app`** shows you all items – except for programs – that were created, modified, or opened on the date of the search.

Omit with the minus sign

Similarly, you can omit particular words from your results by adding the *Minus* sign (-) to the beginning of each word that you want to exclude. For example, **`kind:pdf name:Guide -book`** searches for PDF documents with the word *Guide* in the name, but omits results that contain *book*, thus ignoring your collection of guidebooks when you're looking for your daughter's Guide camp schedule.



Vaya Bags recycled bike tube laptop bag

Bike lovers and eco-conscious Mac users take note: Vaya Bags' Laptop Bag ($99 [£63], www.vayabags.com) promises to encase your laptop in creatively recycled, weatherproof materials – in this case, bike tubes. Even the front pocket is made from repurposed Sunbrella marine awning.

The 13in version (a 15in bag is also available) holds a 13in MacBook Pro, along with an iPad, quite nicely. It even has a bit of room left over for the charger, leaving the front pouch free for small, miscellaneous items.

The waterproof material does a good job of protecting your devices from the elements, but there isn't much in the way of shock protection. The bag is two layers thick, with recycled inner tubes making up the outer layer and a layer of waterproof vinyl-coated polyester lining the interior. While rain won't ruin your day, dropping the bag or getting knocked off your bicycle might cause some damage to the items inside.

Overall, the Recycled Bike Tube Laptop Bag is a good, light bag that's roomy enough to carry your laptop and even a tablet, along with various other odds and ends you may have. – ALBERT FILICE

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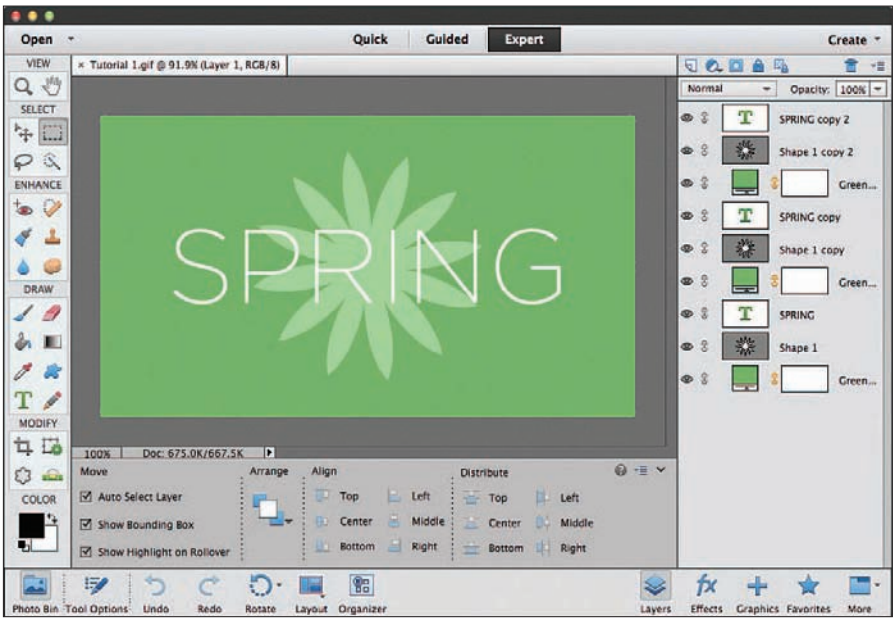
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Create

Using the web for video, graphics, publishing, photography, and other creative pursuits



Take care with layers Your GIF animation can involve several elements, such as shapes and backgrounds, but you must merge each layer set to create a single frame.

Make your own animated GIFs the easy way

GIF89a has emerged from purgatory to become the web's cool new thing once more. Here's how to join the trend

BY CHRIS McVEIGH

You can't go far online without seeing animated GIFs. They fell out of fashion over the past 12 years in favour of Flash and streaming HD video, but now (somewhat enigmatically) they're back. Those that strike the right combination go viral. Not bad for an image file format that's over two decades old.

The Graphics Interchange Format was created in 1987 by CompuServe. A 1989 revision (known as GIF89a) allowed the included still-image frames to show with time delays, permitting frame-by-frame animation. In the mid-1990s, Netscape's support for the format let creators choose how many times the animation looped.

Despite its success, the format is showing its age. A GIF image is limited to a maximum of 256 colours, and files use a compression technique called LZW (Lempel-Ziv-Welch), a lossless algorithm that's poorly suited to animation and video playback. The greater the pixel dimensions of the document, the higher the colour count; and the quicker the frame rate, the larger the file size. A 10-second MP4 video might be 2MB; the same clip as a GIF would be more than 20MB. As a result GIFs tend to be short, with reduced frame rates and restricted colour palettes. These limitations add to the challenge of creating a GIF, but they also contribute to the format's appeal.

Creating a GIF

A number of apps allow you to make animated GIFs, but you can handle the basics in Photoshop Elements 11. For example, here are the steps to create a graphic with a rotating flower.

Step 1: Open Photoshop Elements and choose the Photo Editor. Select *File* ➜ *New Blank File*. Name the new document **`Animation`** and then define its size. GIFs are best when fairly small, so enter a width and height of 640 x 360 pixels. Set the Background Contents to *Transparent* and click *OK*. Once your document opens, click *Expert* (at the top), and then the *Layers* button (lower right).

Step 2: Choose *Layer* ➜ *New Fill Layer* ➜ *Solid Colour*. Name the layer **`Green Background`** and click *OK*. Select a bright colour; in this example, we specified a shade of green (H: 110; S: 40; B: 70).

Step 3: Select the *Custom Shape* tool. Click the wobbly shape at the top right of the tool options to select *Custom Shape*. Click the currently defined shape to see others. At the top of the pop-up panel is a menu with more shapes. Choose *Nature*, and select *Flower 24*. Hold the <Shift> key and drag the cursor across the canvas from the top right down diagonally. (Holding <Shift> ensures the object retains the height-to-width ratio.) Stretch the object so it's almost as tall as your document, and pick a new colour for it from the colour-swatch menu to the bottom right of the shape selection menu; we chose Pastel Yellow-Green. Select the *Move Tool*; as you do, the alignment options will appear at the bottom. Go to *Select* ➜ *Select All*, and click *Center* and *Middle*.

Step 4: Choose the *Text* tool. In the options, select a lightweight font such as Helvetica Neue Ultralight at 30-point, white, and with centre justification. In the middle of your document, type **SPRING**. Click the green checkmark on the bounding box to confirm the text entry. In the alignment options at the bottom, choose *Select* ➜ *All* and click the *Center* and *Middle* alignment icons. In Layers, click the text layer to select it (if necessary) and click the padlock icon at the top.

Step 5: Your next two frames will be based on this first set of layers. Under Layers, hold <Shift> and click each layer; with all three selected, choose *Layers* ➜ *Duplicate Layers*. In the Duplicate Set window, click *OK*. Repeat this process once more. You should have three copies of your text, flower, and background colour.

Step 6: Choose the *Move* tool, and click the flower. Click the tiny circle at the bottom of the bounding box. At the bottom of the document window, under Angle, dial in *20* to rotate the shape 20 degrees. Click the green checkmark on the bounding box to accept the change.

Step 7: Under Layers, click the eye icon for the three topmost layers to turn them off. Repeat the rotation process for the middle flower, rotating it 10 degrees. Turn the top three layers back on.

Step 8: You must now merge each flower with its solid background to create three distinct frames. (Save your file at this point.) <Shift>-click the top three layers to select them and then choose *Layer* ➜ *Merge Layer*. Repeat the process for the middle and bottom sets.

Step 9: Choose *File* ➜ *Save for Web*. Select *GIF 32 No Dither* from the Preset pop-up menu, and then click the *Animate* box. Looping should be set to *Forever*; leave the Frame Delay at *0.2*. Click *Save*, putting your new GIF on your desktop.

Step 10: Move to the desktop, and drag and drop your GIF into an open browser window to see it in action.

GIFs tend to be short and sweet, with reduced frame rates and restricted colour palettes. These limitations add to the challenge of creating an interesting GIF

Making bug eyes

Here's a technique for creating another kind of GIF in Photoshop Elements.

Step 1: Open a photo of a person or pet. Click *Expert* at the top, and then click the *Layers* button at the lower right.

Step 2: Under the Layers panel, click *Background* and choose *Layer* ➜ *New* ➜ *Layer from Background*. Name it **Frame 1** and click *OK*. Select it and choose *Layer* ➜ *Duplicate Layer*. Name the layer **Frame 2**.

Step 3: Click the new layer to select it (if necessary), and choose *Filters* ➜ *Distort* ➜ *Liquify*. Among the tools in the upper left, choose the *Bloat* tool (the sixth icon down) and, at the far right, set the brush size to whatever is nearest to the size of the eyes in the photo. Click the cursor carefully over the pupils of the subject's eyes to increase their size slightly. The tool sometimes bloats too quickly; if this happens, choose *Edit* ➜ *Undo* and try again with quicker mouse clicks. Click *OK*.

Step 4: At the main interface, click *Frame 2* and choose *Layer* ➜ *Duplicate Layer*. Name it **Frame 3**. Go to *Filters* ➜ *Distort* ➜ *Liquify* and use the Bloat tool to expand the eyes even more. Click *OK*.

Step 5: To have the eyes appear to expand and contract, you need to place a frame between Frame 3 and Frame 1. So, click the Frame 2 layer and choose *Layer* ➜ *Duplicate Layer*. Name the layer **Frame 4** and click *OK*. Click and drag Frame 4 above Frame 3 in the Layers panel.

Step 6: It's time to export your GIF. Choose *Image* ➜ *Resize* ➜ *Image Size*. Click the checkbox for *Resample Image* (if necessary), and choose a maximum dimension of 600 pixels in either direction. Click *OK*, and choose *File* ➜ *Save for Web*. In the export options, select *GIF 128 Dithered* from the Preset pop-up menu, and then click the *Animate* checkbox. The Looping setting should be *Forever*; speed up the Frame Delay to *0.1*. Click *Save*, and put the GIF on your desktop.

Step 7: Drag and drop the GIF into an open browser window to see it play.

Once you've become familiar with either method described above, you can construct GIFs with additional frames for smoother animation, and then decrease the frame delay in the 'Save for Web' page to increase the frame rate.



Eye-popping effect Using Liquify is a fun way to animate photos of animals or people.

Reviews

The latest software and hardware, reviewed and rated

Extensis Portfolio Server 11.0.1

Powerful asset manager for teams brings order to digital workflows

BY MICHAEL BURNS

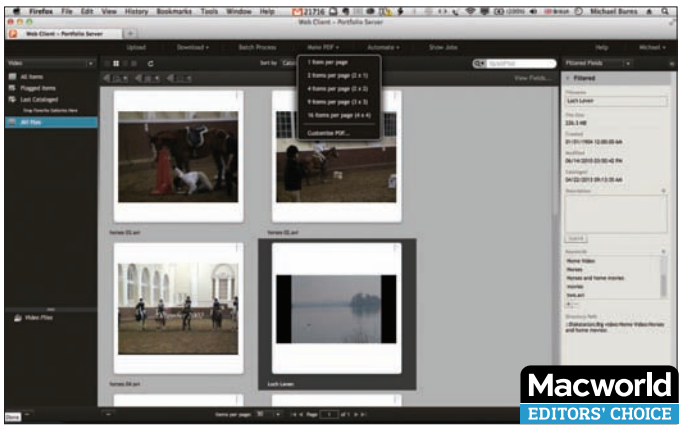
Pros: Effective cataloguing of assets

Cons: Flash-based web clients restricts use

Star Rating: ★★★★★

Company: Extensis, www.extensis.com

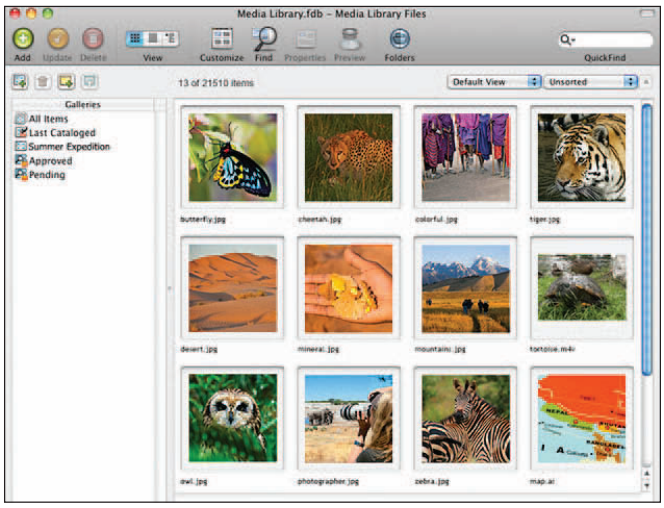
Price: Studio £1,798.80; POA for Professional and Enterprise editions



Web client The powerful web client offers asset control, user customisation, Favourites shortcuts, PDF contact sheet creation, and more.

Setting up this team-oriented digital asset management system from Extensis is fairly straightforward, though you do need some basic knowledge of networks. Install the Portfolio Server on a Mac host machine (running OS X 10.7 or Lion Server at least), create a catalogue and then assign users to access it.

You can create Dropbox-style AutoSync folders for gathering media on the Mac or on permanently connected volumes – any files in an AutoSync folder, or its subfolders, will be catalogued in Portfolio. Alternatively, you can manually scan files and folder locations.



Library card Catalogue your assets, be they video or even camera Raw formats.

The web client component is flexible, able to move files from one folder location to another on disk, download files and perform batch file conversions. It also allows users to create Favourites – customised groups of catalogue items – further enhanced by a quick access list at the top of the Organiser panel.

Web client users are able to generate a PDF contact sheet in a variety of configurations through a dedicated menu command, while an Automate command creates media such as video slideshows from selected catalogue items.

It runs on any browser that supports Flash, so we had web clients running on Opera on an Android phone and on a networked Mac. We found the new ability to customise the client entry screen in the Server Admin simple and useful for branding purposes.

When it comes to cataloguing assets, video support has been boosted with for Panasonic P2 MXF support, as well a number of new Camera Raw formats. Both the web and desktop clients are now able to extract keywords from a number of file path information as they are catalogued, especially useful for video post production. Portfolio also now supports the IPTC Photo Metadata standard and PLUS XMP namespaces, thus increasing interoperability with Adobe's Creative Suite applications.

Macworld's Buying Advice

Portfolio Server effortlessly handles media management, and support for more file types and client customisation is welcome. Flash is required for all client and server web browsers though, which may restrict your client base.

Read more at bit.ly/18u18jK

AOC d2757Ph

Make an impression with 3D depth on a vast screen space

BY DUNCAN EVANS

Pros: Stylish design; 3D mode; fine colours

Cons: Light leak; mediocre build quality

Star Rating: ★★★☆☆

Company: AOC, www.aoc-europe.com

Price: £250



What the bevel The front of the panel is described as borderless, which isn't quite true as it has a 2mm bevel.

The prospect of 3D on a 27in IPS panel at an affordable price seems like a monitor made in heaven. The d2757Ph offers a standard 2D IPS display, but adds two dedicated 3D modes and a 2D-to-3D conversion mode for turning your regular display into 3D. The former is for 3D movies and games, the latter for transforming 2D photos or movies into a front-back kind of 3D. With genuine 3D, the content will appear to burst out of the screen; with 2D to 3D conversion, the effect appears to go back into the screen.

The monitor gets off to a good start with aesthetics, a brushed metal panel houses touch-sensitive controls. AOC describes the d2757Ph as borderless, but that isn't quite true. The display finishes about 1cm from the edge of the screen and then there's a 2mm plastic bevel around that. Below the display is a brushed metal panel, which sits on a stand with restricted vertical movement. There are two HDMI and one analogue D-Sub ports, a headphone socket and an audio-in jack for the underwhelming built-in speakers.

The monitor's IPS technology means excellent viewing angles, with no colour shifts or variations at all. The brightness rating of 250cdm^2 means it can be used in a wide range of environments.

With 27in, you get a lot of screen real-estate, but the resolution is a standard HD of 1,920 x 1,080.

The contrast ratio is 20,000,000:1 using dynamic contrast ratio, making for plenty of impact. In our tests, the standard 1,000:1 contrast ratio was good enough when combined with the IPS display to give bright and vivid colours. There's clear definition in the highlights, though less in shadowed areas.

Build-quality is a concern. There's definite light leak from the left and bottom-left side of the panel. This makes solid colours look slightly lighter on the left side of the screen. There's also minor shadowing in the corners when looking at a pure white display. On the plus side, the refresh rate of 5ms is fast enough to make sure there's no blurring or tracing.

The d2757Ph comes with one pair of passive 3D glasses and a pair of clip-ons. The 2D to 3D conversion is what the buying decision for this monitor stands or falls on, and viewing photos in 3D really increases their impact, though you have to be sat straight on to the monitor as any sideways movement produces ghosting. The 3D effect works better on still images.

Macworld's Buying Advice

The big question here is whether you want the 3D effect. If you do, then this is a compelling way of creating more depth to images and making more of an impact. The huge 27in screen is generally excellent, aside from the build-quality issue mentioned. The price is also very affordable, making this a real alternative to a standard 2D-only display.

Read more at bit.ly/ZPVXHL



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Pentax K-5 II

Weatherproofed flagship DSLR comes with semi-pro features at a mid-range price

BY GAVIN STOKER

Pros: Full HD video shooting; Live View mode

Cons: No rear adjustable LCD screen

Star Rating: ★★★★☆

Company: Pentax, www.pentax.co.uk

Price: £799.99 (body only); £869.99 (with 55mm zoom)

Seeking a digital SLR with a semi-pro build and specification, but not a £1,000+ price tag? At £799.99, the Pentax K-5 II (body only) could be up your street. The 'II' upgrades the old K-5 from 2010 but, while cheaper, the changes are few – resolution is still 16 megapixels from a large APS-C sensor. Its real selling point is its weatherproofed stainless steel and magnesium alloy body.

Auto focus (AF) is one of the improved features, with the AF sensor purporting to be able to cope with a wider variety of shooting conditions. Exposure metering settings have also been expanded from -3EV to +18EV, making it one of the best low light DSLRs available.

The large and bright eye-level optical viewfinder offers 100 per cent field of view; so what you see is what you get. Alternatively, you can use the 3in, 921k dot resolution LCD screen by pressing the Live View button (essential for shooting video). A second screen displays shooting information such as the number of shots remaining, and allows you to enable ISO and adjust exposure, without accessing the menus.

Pentax provided us with a wide 18-270mm zoom, rather than the standard 18-55mm lens. In our tests, we found the sensor and lens maintained detail right into the corners of frame at maximum wide angle. Colours looked vivid, too.



'II' good to be true? The upgrade of the Pentax K-5 comes with faster auto focus and a wider exposure metering range.

Macworld's Buying Advice

In short, even the fussiest of photo enthusiasts might want to consider this as a viable alternative to the 'big two'.
Read more at bit.ly/10iOCMi

QNAP Turbo NAS TS-269L

QNAP's twin bay drive enclosure could be the heart of your media centre or a storage solution for your website

BY KARL HODGE

Pros: Build quality; HD streaming from the box

Cons: More pricey than similarly speced rivals

Star Rating: ★★★★★

Company: QNAP, www.qnap.com/uk

Price: £324.97 (enclosure only)

The QNAP Turbo NAS TS-269L is a twin bay networked drive enclosure, with impressive specifications and solid build. It's powered by a 1.86GHz Intel Atom processor, backed up with 1GB of RAM and 512KB of flash memory.

The styling is reminiscent of a small tower PC. A black plastic faceplate gives you access to the twin drive trays, while the body is aluminium. Some NAS enclosures hide the drive trays behind a door or plate. Not so here. The two bays are a design feature, enabling you to hot swap either 3.5in or 2.5in SATA drives with the minimum of fuss. The unit's maximum capacity is 8TB (4TB in each bay). These can be used in RAID 0 for access to the full storage capacity, or RAID 1 for redundancy – storage on one, mirroring of data on the other.

One area that catapults QNAP ahead of the competition is connectivity. The TS-269L has four USB 2.0 ports, three USB 3.0 ports, an eSATA slot, two gigabit Ethernet ports and an HDMI output. We've tested laptops with fewer slots.

Setup is relatively easy too, thanks to its built-in operating system. The 269L can either be configured as a standalone media centre with XBMC built in, or as a standalone web server or FTP server.



Dual drive The TS-269L offers twin bay storage with Time Machine support.

Macworld's Buying Advice

We've tested several NAS drives lately and the TS-269L competes well. It's not a budget choice though, retailing at an enclosure-only price that some rivals beat with fully populated models.
Read more at bit.ly/17M6c1E

Wacom Cintiq 13HD

This might just be the hottest little creative tool of 2013

BY LIZZIE MARY CULLEN

Pros: Great drawing experience; portable

Cons: Screen is a little bit too small

Star Rating: ★★★★☆

Company: Wacom www.wacom.eu

Price: £749.99



It's a Cintiq The screen's a little on the small side, but that means it's perfect for transporting around.

As with previous Cintiq models, you can draw directly on the 13HD's built-in LCD screen with a digitiser pen. This new model, an upgrade to the five-year-old 12WX, joins Wacom's 22HD, 24HD, and 24HD touch line-up of pen displays.

We previously looked at the 13HD's heavier, bulkier brother, the Cintiq 24HD (bit.ly/HeOzfG), and that was a beast with a whopper of a price tag. Now we have a new version with a 13in screen – at a more affordable price (assuming you count £625 as affordable).

The 13HD sits neatly on your lap or a desk at one of four heights using the detachable stand. You can use it flat, at 22 degrees, 35 degrees and 50 degrees – we'd tell you which is the best position, but everyone who's tried it here has a different opinion.

With the 24HD, you just couldn't move it. It was too heavy. The 13HD, on the other hand, is excellent for transporting – it's very easy to slip in a rucksack with a laptop and go about your business. To make travelling with the Cintiq 13HD as painless as possible, Wacom ships it with a new pocket-sized pen-and-nibs case.

The single cable coming out of the Cintiq splits Hydra-like into an HDMI cable, USB for the control, and a power connection. The only sticking point here is the HDMI cable. Modern Mac users will need to pick up an Mini DisplayPort to HDMI adaptor for about £20. It's not much of an additional cost considering the price of the Cintiq 13HD – but remember to buy one otherwise you'll find yourself very frustrated when you get the Cintiq home and have to wait a few days for an adaptor to make it work.

The Cintiq 13HD has a gorgeous screen, displaying 16.7 million colours to ensure life-like colour quality. Plus, the wide-format HD LED display gives you a wide viewing angle of 178 degrees and a resolution of 1,920 x 1,080 pixels that's particularly good for handling intricate graphics and illustration.

The controls on the left of the Cintiq are intuitive, and you can set the tools to perform various shortcuts, dependant on your working methods. There's a handy option to jump from the Cintiq's screen to a monitor with the press of a button, and our drawing sped up as a result.

The provided pen is also beautiful. With 2,048 levels of pressure and tilt sensitivity, it's perfect for creating intricate linework. It's so precise, and creates a very authentic line.

Macworld's Buying Advice

To sum up, the 13HD is a great piece of kit at a much better price than the 24HD and takes up way less space. If anything, the screen is just a tad too small. We found our eyes straining after an hour.

Read more at bit.ly/12ZTDen

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PrivacyScan

Get rid of the files that compromise your privacy

BY VIC LENNARD

Pros: Easy to use; offers secure shredding

Cons: No scheduling or automation features

Star Rating: ★★★★★

Company: SecureMac, www.securemac.com

Price: £6.99 (bit.ly/18wbcbL)

The level of privacy we enjoy online is questionable given the way that companies track our every online movement. The principal villains are cookies, small pieces of data that store anything from your ID and when you last browsed a website, to information on each page you visited and what you clicked on.

In addition, web browsers store your online history including websites visited, searches and videos watched, and this is available to anyone who logs onto your Mac. Some web browsers offer a private browsing mode where no information is saved, or you could use browser tools like 'Clear recent history', but an alternative is to use PrivacyScan.

This finds and removes files on your Mac that show your online usage. It supports most modern browsers and also handles Finder, QuickTime and Preview.

On first launch, PrivacyScan lists all the installed applications it supports and you choose what data is eradicated. By default, it just deletes files, but for the security conscious you can opt for secure shredding with one-, seven- and 35-pass overwriting.

PrivacyScan doesn't offer a way of keeping certain website cookie though – it's all-or-nothing. Plus the lack of a scheduling option means that scans only happen when initiated.



Quick advice The on-screen tips are really useful when you start using PrivacyScan.

Macworld's Buying Advice

PrivacyScan is a worthwhile addition to anyone's set of security tools. It's easy to use, but you need to remember to run it.

Read more at bit.ly/18u15UW

TOTALe

Learn a new language in an immersive, online world

BY VIC LENNARD

Pros: Intuitive to use; well designed

Cons: Lack of translation is frustrating

Star Rating: ★★★★☆

Company: Rosetta Stone, www.rosettastone.co.uk

Price: £150 (six-month subscription); £240 (1 year)

If you've ever tried learning a foreign language, you'll appreciate how difficult it is. Rosetta Stone teaches language through pictures, listening and speaking. In fact, it's as immersive as a language course can be without a dedicated tutor.

TOTALe is Rosetta Stone's web-based course on a six- or 12-month subscription. There's also a mobile app (free, bit.ly/YwFib5) that allows you to log on and continue learning away from a Mac.

To put TOTALe through its paces, we selected modern Hebrew. Knowing the alphabet in advance and being able to read words helped, but before starting we couldn't translate a single word.

The teaching structure comprises levels containing multiple units with a number of lessons in each. New words are introduced without warning – you figure out which pictures they refer to.

Working through the complete course will take upwards of 150 hours and that doesn't include the website extras on Rosetta World. These include games and a chat window, where students can ask each other questions. There are also real-time online studio sessions, with a live coach and up to three other students.

How effective is TOTALe? The results you get will be down to the time and dedication you put in, and it isn't a quick fix for a trip abroad next week.



Fun time Rosetta Stone's games include MemGo, a language-based take on Pairs.

Macworld's Buying Advice

While there are other, cheaper options, TOTALe is impressive. The pricing is reasonable, with the annual subscription costing less than a tutor once a month.

Read more at bit.ly/18Z1SL8

Pixa

A promising new photo organiser to rival Apple's iPhoto

BY CLIFF JOSEPH

Pros: Tabs for viewing multiple projects,

Cons: Buggy; lacks advanced features...

Star Rating: ★★★☆☆

Company: Shiny Frog, www.pixa-app.com
Price: £17.49 (bit.ly/VhpfYx)



Keeping tabs Pixa uses tabs to open multiple projects simultaneously.

Apple's iPhoto does a good job of automatically organising your images for you, but it doesn't give you very much freedom to do things your own way. You can create your own Albums, but other options such as its tagging and search features are basic.

If you want a little more freedom in the way you organise your photo collection then you could take a look at Pixa. Its interface is similar to iPhoto's and allows you to import photos simply by dragging and dropping them into the program's main workspace window. You can also create your own Projects – which are Pixa's equivalent of iPhoto Albums.

As well as detecting standard metadata – such as the date and time a photo was taken – Pixa will analyse your imported photos and tag them with details such as the size and the dominant colours. There's also an extensive set of other tags – such as Holiday or Sport – that you can add to photos.

You can then use Pixa's built-in search tool to locate photos of a particular size and linked to a particular subject, perhaps also using a colour such as blue to home in on photos of the sea or sky. There are no editing features in Pixa at all, but it does have an Open In command for opening photos in the editor you choose.

One nice touch is that Pixa allows you to open multiple views of your photo library by using tabs that sit at the top of the workspace window. You could keep one tab always open to provide a view of your entire photo collection and then open additional tabs that allow you to quickly dip into specific projects.

For many users, Pixa's key feature will be its Live Folders option. Unlike iPhoto, which stores your photos in its own Library file within your main Pictures folder, Pixa lets you store your images in any number of folders anywhere on your hard disk. You can tell it to treat any folder as a Live Folder and it will then monitor the contents of that folder, automatically updating your library as any new images are added to that folder. This is handy if you want to keep photos stored in specific folders or locations rather than letting iPhoto automatically file them away for you.

Our only complaint is that Pixa is a brand new program and is still a little buggy – it crashed a couple of times during our tests. However, there's a trial version available, so you can check it out before buying the full version.

Macworld's Buying Advice

Many people will be perfectly happy to let iPhoto organise their photos for them, but features such as Live Folders and the tabs that allow you to quickly view multiple projects will definitely appeal to many people. While a recent update did fix a number of bugs, there are still a few more that need to be ironed out before we can give it an unqualified recommendation.

Read more at bit.ly/11jEYjY

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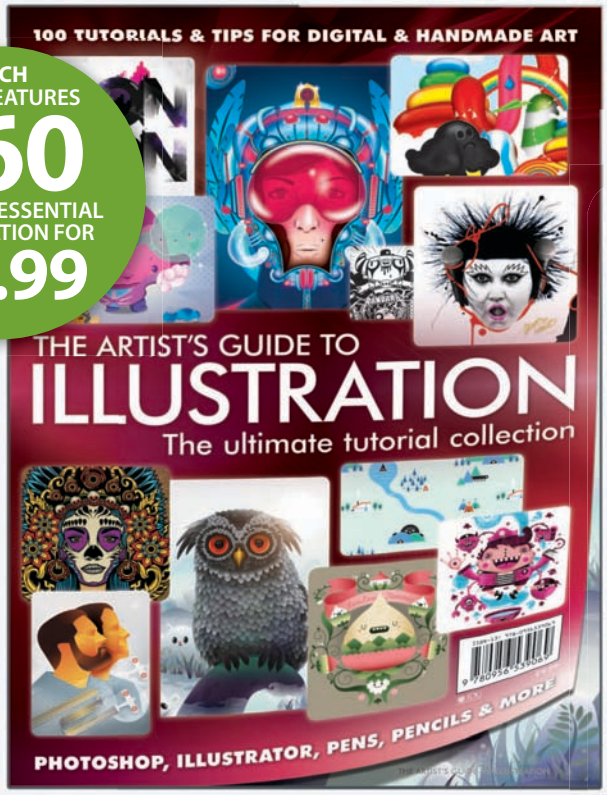
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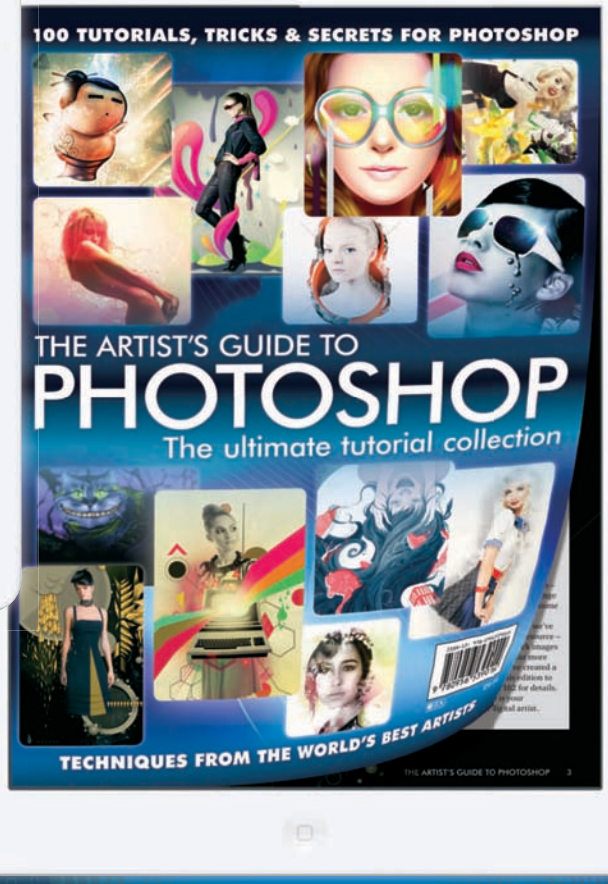
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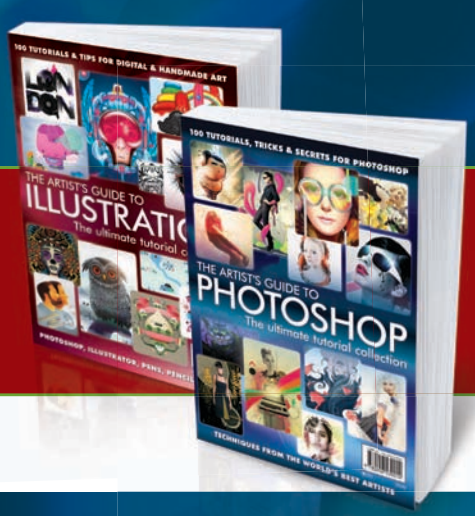
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Group Test

AirPrint printers

Forget big black boxes: today's home printers are mobile and stylish enough for the living room

BY DAVID BAYON



These are turbulent times for the trusty inkjet. Since we last rounded up the best printers on offer, we've seen both Lexmark and Kodak throw in the towel, leaving just four big names to fight it out: Brother, Canon, Epson and HP.

A tighter focus is not necessarily a bad thing though, particularly as these manufacturers have survived primarily by keeping the quality high while cramming in the features. Wi-Fi is now standard, and mobile printing is a priority, which means manufacturers are honing their designs to fit not just in the home office, but also the living room. Thanks to the freedom of phones and tablets, the printer is now another mobile accessory.

Take the HP Envy 120, for example. With its flat body and glossy black finish, it wouldn't look at all out of place under the TV, and it comes at a price premium of which Apple would approve. It's basically a designer printer, and it's not alone: Epson is taking steps down a similar path with the similarly expensive Expression Photo XP-750. Alternatively, the style connoisseur on a tighter budget can buy the Canon Pixma MG6350 in glossy black or white finishes.

But while these printers vary more than ever in their styles, what all six have in common is support for Apple's AirPrint. This means your iPad or iPhone can see them on the Wi-Fi network, and send documents and photos directly for printing without any drivers or software installed. It's now a mature enough technology that you won't need to worry about firmware updates or compatibility issues – it really does just work.

Cloud thinking

It's not the only method, though. Most also support Google's Cloud Print, for printing directly through the Chrome browser or the search giant's mobile apps, and both HP and Canon have their own solutions for printing via dedicated apps or over email. You might find one method works better than the others depending on the kind of apps and services you tend to use.

What's most interesting is that this is no longer a premium feature. You won't get the full range of mobile printing solutions on every device, but even the £79 Canon Pixma MX455 supports AirPrint and dedicated mobile apps. That's great news, as it leaves you free to base your decision on more important factors. There's plenty to consider, so read on to find out which printer is right for you.

Wi-Fi is now standard, and mobile printing is a real priority, which means manufacturers are honing their designs to fit not just in the home office but also the living room



Brother MFC-J4510DW

Printers that can handle A3 paper tend to be big beasts, but Brother has hit on a novel solution: flip the A4 tray around by 90 degrees. By loading the paper sideways, the MFC-J4510DW's print area is wide enough to handle an A3 sheet fed in manually when required.

To add to that strong media handling, there's a 150-sheet paper tray in the base and a 20-sheet ADF on top for big copying jobs, and it offers fax functions too. To get the full use of its AirPrint functions we set it up over Wi-Fi, and the 9.7cm touchscreen quickly showed its strength when we had to enter our security key by hand. That was after finding and downloading the latest driver from the Brother website, as the software on the setup disc didn't support OS X 10.8.

Mac installation had its hurdles, then, but from there on we had no problems. The MFC-J4510DW's four individual inks slot in behind a door on the front, and the high-yield cartridges each print an impressive 1,200 pages. Even with a combined cost of nearly £80, that makes for attractive running costs of just 2.7p and 6.6p for a mono and colour page, respectively.

Print quality isn't the best – photos were on the pale side with pinkish reds, and areas of solid black in documents showed speckling – but it's fine for running off prints at home. And you get them at a decent rate: we measured 8.3ppm for mono and 5.8ppm for colour prints at normal quality, and it rolled out a 6 x 4in photo at best quality in just 55 seconds.

Macworld's Buying Advice

This grey and white box is fairly attractive and offers solid all-round performance, but is that enough to justify the price? We've seen it for sale online at closer to £175, and the running costs do compensate to some extent, but that still looks a premium price for what is really a solid mid-range device.
Read more at bit.ly/ZBFw1r

Pros: A3-capable tray; low running costs; compact; fax function

Cons: Expensive; no Mountain Lion driver in the box

Star Rating: ★★★☆☆

Company: Brother, www.brother.co.uk

Price: £214.80



Canon Pixma MG6350

Macworld EDITORS' CHOICE

Canon's photo printer manages to be both massive and oddly sleek. The flat shape means it will take up a lot of desk space – it measures 466 x 369 x 148mm – but it doesn't feel as imposing as the HP Photosmart 7520.

The angled front edge is one big touch panel, with buttons glowing into life around the 8.8cm screen. It defaults to Eco mode for double-sided prints and Quiet mode to eradicate the worst of the whirring, and it also has an automatic paper tray.

There's a main A4 tray and a separate photo tray tucked in beneath the output area, and it prints onto DVDs. Above that, the front panel lifts effortlessly, so you can install the six inks: three individual colours, a pigmented black, and dedicated photo grey and black tanks. Setup was a breeze, with the installer taking us online to make sure we had the latest drivers.

There's no doubt the MG6350 is a top-quality printer. Text in our documents was deep and crisp, and colours were accurate. Photos were also detailed and vivid, and we could only spot the slight grain and lightness of tone when we put them side by side with the flawless Epson.

We got nowhere near Canon's claimed speeds, as the MG6350 insisted on pausing to let the ink dry between every page – there is an option to reduce drying time in Windows, but for some reason it was absent from our Mac driver. That meant speeds of just 4.6ppm in mono and 3.1ppm in colour; a 6 x 4in photo took 63 seconds.

Macworld's Buying Advice

Running costs are similar to the Epson at 2.8p for mono and 9p for colour pages, and there are plenty of other parallels between the two. They're both photo specialists with their own strengths, but the Canon Pixma MG6350's excellent text output makes it a real all-rounder.
Read more at bit.ly/13UyJjY

Pros: Sleek design; flawless document quality and good photos

Cons: Speed issues; expensive to run

Star Rating: ★★★★★

Company: Canon, www.canon.co.uk

Price: £169



Canon Pixma MX455

If the Pixma MG6350 is big, the MX455 is even bigger, adding more than 5cm to the height of Canon's high-end device. It's also a clumsy beast in many ways. The 100-sheet input tray is just the open front door. The output tray sits above, but it's not long enough to catch pages as they emerge – for that you pull out the stopper on the input tray, which takes the total depth to nearly 65cm.

But this isn't a premium device. At £79, it's far cheaper than anything else here, yet Canon still manages to pack in a 30-sheet ADF on top of its chunky lid, and a Wi-Fi connection with AirPrint support. With no touchscreen – there's just a two-line LCD – we had to type our security key out letter by letter using the number-pad, but that's a one-off annoyance.

Once up and running the MX455 is a perfectly good printer for the money. Its two ink tanks mean it won't match the best here for print quality, but text was sharp and areas of colour were nice and solid, and only a grainy finish to photos noticeably betrayed the low budget. For all but the most public work, we'd be pretty happy with its output.

The MX455 insisted on pauses to let the ink dry, but we managed to eke out speeds of 5.7ppm for mono pages and 2.9ppm for colour. There's no auto-duplex mode, and it's slow when printing photos, taking two minutes 26 seconds for a 6 x 4in print at best quality, and over four minutes for an A4 photo.

Macworld's Buying Advice

This is Canon's attempt at building a fully-featured all-in-one at a rock-bottom price, and when you add in the low running costs – 2.8p for a mono page and 7.3p for colour – it's clear that goal has been met. It's big and ugly, and it's not the best here at any individual task, but for £79 it's a perfectly usable home office companion.

Read more at bit.ly/125WvXQ

Pros: Cheap to buy and run; decent print quality; fax a bonus

Cons: Needs huge amount of space; ugly; slow printing

Star Rating: ★★★★☆

Company: Canon, www.canon.co.uk

Price: £79



Epson Expression Photo XP-750

It's a bit bigger and a lot less graceful than the HP Envy 120, but this photo specialist from Epson packs so much more into its compact chassis – starting with the paper. There's a main A4 tray at the bottom, a photo tray above it and a further input area at the back. There's even a CD-printing tray tucked neatly in the base. At first it's tough to see where anything comes back out, but then the motor whirs into life and a solid output tray glides right out of the front.

Wi-Fi setup was easy, and we were printing snaps from our iPad over AirPrint within minutes. And this printer is fast: we measured normal-quality mono pages at 9.1ppm and colour at 7.9ppm, with a 6 x 4in photo coming out in one minute 20 seconds and an A4 photo in just under three minutes.

It's those photos that are the XP-750's main selling point. It uses six separate ink tanks, including light cyan and light magenta especially for images, which resulted in perfectly accurate colours and a bright, vibrant tone that puts it ahead of even the Canon Pixma MG6350 for photo quality. We'd happily put its prints on our wall.

Text output isn't so hot. Characters had softer edges than the best printers here, and solid areas of black came out greyish, while images on plain paper didn't leap out at us.

Macworld's Buying Advice

This is very much a home photo printer, not an office device, and it comes with the kind of price you'd expect. We've found it online for closer to £150, but with running costs of 2.5p for mono and 10.9p for colour pages, it's not a cheap choice. Still, it achieves what the Envy 120 doesn't: it retains the quality of a multi-ink system and the flexibility of multiple paper trays in a body that's compact. It might not be as attractive, but it's a better choice for serious photographers.

Read more at bit.ly/UQEUzh

Pros: Compact, yet carries plenty of paper; picture quality

Cons: Expensive to buy and run; middling document quality

Star Rating: ★★★★☆

Company: Epson, www.epson.co.uk

Price: £229.99



HP Envy 120

This sumptuous slab of glass and gloss black is an unlikely all-in-one printer, and it's as luxurious as they come. It's just 110mm high with a see-through scanning lid, and when you first turn it on the motorised control panel – complete with colour touchscreen – rises gracefully to greet you. If you think that's neat, wait until you print something: the thin output tray arm extends automatically too.

Everything is designed for a smooth experience, and that includes the initial setup. You're prompted to go online and create an ePrint account for printing over email, and the wireless security settings are automatically sent to the device. AirPrint worked flawlessly at the first time of asking, too.

If it was easy to make a printer so small and sleek they'd all be doing it, so there are compromises. HP's quoted print speeds of 7ppm for mono and 4ppm for colour are the lowest here, and we didn't get even hit them in our tests. Draft mono pages came out at 5.8ppm, with normal quality at 3.7ppm. Colour pages came out at just 2.8ppm, but a 6 x 4in photo took a more reasonable 63 seconds.

With only two cartridges, quality was never going to match that of the six-ink printers here, but our test prints were still okay. Colours were mostly accurate, although photos had a cold, bluish tinge to them, and text wasn't particularly crisp.

Macworld's Buying Advice

Still, if Apple made a printer, it would probably be a lot like the Envy 120. It's beautifully designed and built, initial setup and daily use are as easy as any we've experienced, and it comes with the highest price tag and running costs here. Whether it's right for you depends on your approach to home furnishings: pretty much every printer here is better for actual printing, but nothing comes close to the Envy 120's glorious design.

Read more at bit.ly/11yz4eQ

Pros: Well built and compact; smooth setup process

Cons: You're paying for design not print quality

Star Rating: ★★★★☆

Company: HP, www.hp.co.uk

Price: £242



HP Photosmart 7520

The Photosmart 7520 has a very different design to the others, eschewing the low and flat look for a stepped shape. The smaller top shelf has the scanner platen, a 25-sheet foldaway ADF and a protruding tablet-style touchscreen, then there's a cut-out thin body before you reach the bulky base, where A4 and photo trays sit.

As with the Envy 120, the extensive setup process takes you online for the latest software, and sets up an ePrint account for you as well – it also supports AirPrint. The touchscreen is large and clear, nice and responsive to touch, and has all sorts of basic on-device image editing tools.

Lifting the lid gives you access to the print carousel, which takes five individual inks – including a pigment-based black for better text output, just like the top-end Canon and Epson printers. As such we expected a lot from our test prints, but performance was a bit hit-and-miss.

Sure, text was sharp and well-formed, and it came out at a nippy 10ppm at normal quality (and nearly 16ppm in draft mode), but photos were pale and lacked impact. The detail was good, with no visible grain, but in blind tests we picked the Epson and Canon photos ahead of the HP every time.

It's also a noisy printer that likes to spend a lot of its time performing maintenance, humming and whirring away even between print jobs. In an office that's not an issue, but it's not ideal in a quiet home.

Macworld's Buying Advice

Perhaps we're being overly harsh – after all, this is the second-cheapest printer here at just £125. But it's not that much better than the Canon Pixma MX455 and not that much cheaper than the MG6350, which makes it a bit of a compromised middle-ground option.

Read more at bit.ly/15FHCSC

Pros: Two paper trays and an ADF; big touchscreen; price

Cons: Disappointing photo quality; boxy design; noisy

Star Rating: ★★★☆☆

Company: HP, www.hp.co.uk

Price: £125

MACWORLD BUYING ADVICE

It can be tricky to choose between printers these days. Features such as AirPrint support have gone from surprise extras to standard offerings, and with some of the lower-quality manufacturers no longer making inkjets, it's actually hard to buy a truly bad printer.

In one sense that means you really don't have to spend a lot to get results. The £79 Canon Pixma MX455 is a beast of a printer that almost needs a desk to itself, but if you have the space it will produce perfectly good prints with reasonable running costs.

At the other end of the scale, the HP Envy 120 costs three times as much, and with its glass lid and compact dimensions it's a thing of real beauty.

Those are both valid options, but most people's budgets and needs lie in the middle. The HP Photosmart 7520 is the next cheapest; performance is pretty good, particularly with documents, so it makes a solid choice for a home office. The Brother MFC-J4510DW is also office-focused, matching the HP's fax functions and large paper tray. It's more compact and stylish, but beyond an Ethernet connection, there's not much here to justify the much higher cost.

That leaves the two photo specialists, and it's here that the real quality gets shown off. The Epson Expression Photo XP-750 is the pick for pure photo quality, producing glorious prints on glossy paper thanks to its six separate inks. If photos are your number one priority, it's hard to look elsewhere.

But even the most enthusiastic photographer prints documents too, and when we look at the whole picture there's one printer that rises to the top. The Canon Pixma MG6350 produces superb photos, and unlike the Epson it backs them up with excellent document quality. It's sleek and stylish, its running costs are slightly lower, and it costs less to buy, which makes it our all-round inkjet pick.

How they shape up

Macworld EDITORS' CHOICE

Product	Brother MFC-J4510DW	Canon Pixma MG6350	Canon Pixma MX455	Epson Expression Photo XP-750	HP Envy 120	HP Photosmart 7520
Price	£214.80	£169	£79	£229.99	£242	£125
Functions	Print, scan, copy, fax	Print, scan, copy	Print, scan, copy, fax	Print, scan, copy	Print, scan, copy	Print, scan, copy, fax
Print resolution	6,000 x 1,200dpi	9,600 x 2,400dpi	4,800 x 1,200dpi	5,760 x 1,440dpi	4,800 x 1,200dpi	9,600 x 2,400dpi
Paper tray	150 sheets; 20-sheet ADF	125 sheets; 20-sheet photo	100 sheets, 30-sheet ADF	100 sheets; 20-sheet photo tray	80 sheets	125 sheets; 20-sheet photo; 25-sheet ADF
Connectivity	USB, Ethernet, 802.11n	USB, Ethernet, 802.11n	USB, 802.11n	USB, Ethernet, 802.11n	USB, 802.11n	USB, 802.11n
Mobile printing	AirPrint, Google Cloud Print	AirPrint, Google Cloud Print, Pixma Cloud Link, iOS	AirPrint, iOS	AirPrint, Google Cloud Print	AirPrint, Google Cloud Print, HP ePrint	AirPrint, Google Cloud Print, HP ePrint
Rated print speed	Black 20ipm/ colour 18ipm**	Black 15ipm/ colour 10ipm**	Black 9.7ipm/ colour 5.5ipm**	Black 9.5ppm/ colour 9ppm	Black 7ppm/ colour 4ppm	Black 14ppm/ colour 10ppm
Actual print speed	Black 8.3ppm/ colour 5.8ppm	Black 4.6ppm/ colour 3.1ppm	Black 5.7ppm/ colour 2.9ppm	Black 9.1ppm/ colour 7.9ppm	Black 3.7ppm/ colour 2.8ppm	Black 10ppm/ colour 3.9ppm
Cartridge costs*	Black £32.38/ cyan, magenta, yellow £15.58	Five-ink multipack £64/grey £17	Black £17/ colour £18	Six-colour multipack £74.99	Black £25/ colour £29	Black, photo, cyan, magenta, yellow £16 each
Pages per cartridge	Black 1,200/ colours 1,200	Pigment black 500/black 4,425/ cyan 665/magenta 660/yellow 685/ grey 3,350	Black 600/ colour 400	Black 500/ colours 740	Black 600/ colour 440	Black 550/ colours 750
Cost per page	Black 2.7p/ colour 6.6p	Black 2.8p/colour 9p (estimated)	Black 2.8p/colour 7.3p (estimated)	Black 2.5p/ colour 10.9p	Black 4.2p/ colour 10.8	Black 2.9p/ colour 9.3p
Dimensions (W x D x H)	480 x 290 x 186mm	466 x 369 x 148mm	458 x 385 x 200mm	390 x 341 x 141mm	429 x 336 x 110mm	454 x 455 x 220mm
Star Rating	★★★☆☆	★★★★★	★★★★☆	★★★★☆	★★★★☆	★★★☆☆

*Based on highest capacity cartridges or cheapest bundle cost
**Images per minute

Mac Gems

Discover great, low-cost Mac products **Edited by Dan Frakes**

PRODUCTIVITY

TextWrangler 4.5

★★★★★ free, Bare Bones Software, bit.ly/151SlGl

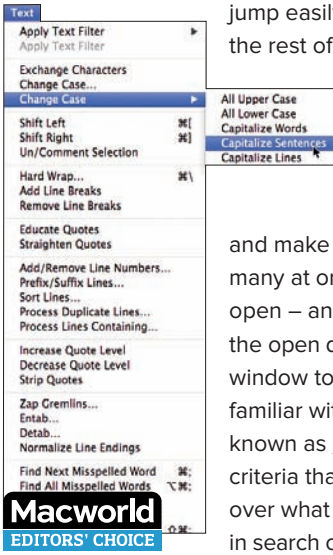
You can make short work of challenging text-manipulation jobs with Bare Bone Software's TextWrangler, which is free from the Mac App Store.

The application can read almost any file, but it saves only to plain-text files, and it doesn't support styled-text formats such as RTF or Microsoft Word. TextWrangler shares this 'pure' text-editor approach with its professional-grade sibling, BBEdit 10 (£34.99, bit.ly/151U8eF). Both programs are now Retina-display ready.

New to this version of the application are switchable syntax-colouring schemes. Code folding lets you view or hide the functions you're working with, and TextWrangler allows you to easily access files on FTP and SFTP servers without leaving the program.

Text-manipulation features include case conversion, line wrapping and numbering, simple conversion of straight quotation marks to curly (and vice versa), and the capability to work with multiple files simultaneously. TextWrangler automatically saves your files as you work.

A new Go menu lets you build and step through a history of the different locations in a document where you've been working. This feature enables programmers to jump easily between functions, while the rest of us can switch between the different sections of our documents.



TextWrangler's Find and Replace features are superb. You can search for and make changes in a single file or many at once – even those that aren't open – and you can move between the open document(s) and your search window to refine a search. If you're familiar with regular expressions (also known as *grep*), you can create search criteria that provide precise control over what text gets found and replaced in search operations.

Unless you require the extra features of BBEdit, TextWrangler should be your text editor of choice. – TOM NEGRINO

NETWORKING

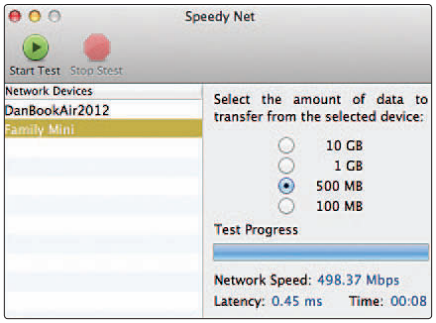
Speedy Net 1.0

★★★½ 69p, Mauricio Santos, bit.ly/162YgLh

If you want to test your local network's performance, Speedy Net is capable, inexpensive, and easy to use.

Launch it on two Macs on your network, and – if they can see one another – each will show up in the Network Devices list on the other. On either end, select a connection to test, choose the amount of data to transfer, and click *Start Test*. You'll see a progress bar as the system transfers the data, along with live-updated data on network speed, latency and time. When the test finishes, you'll see the overall results.

Speedy Net can do much more than just satisfy your curiosity. Last year, we were getting very slow internet and network performance on a home-office iMac; but other Macs were fines. We fired up Speedy Net and tested a local Ethernet transfer between the iMac and the Mac mini in the family room – and the transfer speed was worse than it would have been on a bad Wi-Fi network.



We switched the iMac to Wi-Fi, keeping the Mac mini connected via Ethernet, and ran a Speedy Net test again. The data-transfer speed was much better, indicating the problem was with Ethernet on the iMac's end. We swapped Ethernet cables on the iMac and ran another test, with no improvement; so switched the iMac to a different Ethernet port, and the speed jumped by seven to eight times. It turned out that one of the Ethernet jacks had gone bad – and Speedy Net made finding the problem easy. – DAN FRAKES

PRODUCTIVITY

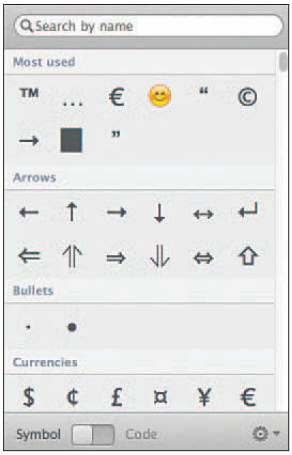
Characters 1.1

★★★½ £1.99, Idea Bits Latvia AS, bit.ly/105cuCX

Your Mac can produce lots of characters and symbols you won't find on your keyboard. OS X offers a couple of tools for finding these characters: a Character Viewer and a Keyboard Viewer.

But if you frequently type special characters, this program, from Idea Bits, is a more-convenient option. When you need to 'type' a special character, click Characters' systemwide menu-bar icon or press its keyboard shortcut.

The resulting pop-over shows a scrolling list of available special characters, divided into sections such as Most Used (the ones you access most frequently, for quick access), Arrows Bullets, Currencies, Cyrillic, Digits, Dingbats, Emoji, Geometric Shapes, Greek, Hebrew, Math, Parentheses, Punctuation and Symbols. In Characters' preferences, you can disable any categories you don't use, though you can't reorder the sections.



If you know the name of the character you want to use, start typing it in the search field; the app filters the pop-over's contents to show just the characters that match your search. For example, typing `trade` yields ™ and ®.

After finding the character you need, click it – or if you're a keyboard jockey, use the arrow keys to select the character and then press <Return> – to copy it to the Clipboard for pasting elsewhere. By default, the app displays a Notification Center alert that confirms the copy.

Characters also offers an option that will be very appealing to coders: flip the big switch at the bottom of the pop-over from Symbol to Code, and Characters will copy the selected character's code representation to the Clipboard as either Python source or the HTML entity's name, decimal representation, or hex representation. Use this feature, and you'll never again need to remember whether an opening smart quote is `“` or `”`.

We can't be sure – since we didn't count them – but OS X's Character Viewer appears to offer a somewhat wider range of characters, especially in the Pictograph category. However, many of the extras are obscure things that you aren't likely to use regularly unless you have very specific needs. We especially like that we can use Characters without ever lifting our fingers off the keyboard. For us, this is an easy-to-use, visually attractive app that's faster than accessing and using the Character Viewer. – DAN FRAKES

PRODUCTIVITY

Type2Phone 2.0.2

★★★½ £2.99, Houdah Software, bit.ly/151VzcU

If you don't want to shell out £30 to £100 on an iOS-friendly Bluetooth keyboard, consider Type2Phone. This clever utility lets you use your Mac's current keyboard with the iOS device or Apple TV of your choice. (You'll need iOS 3.2 or later, or Apple TV software 5.2 or later.)

To use it, you'll first have to use the iOS Settings app to pair your Mac with your iOS device. Then, whenever Type2Phone is the frontmost application on your Mac, whatever you type on your computer will appear on your iOS device.

As you type, the pressed keys appear in the Type2Phone window in large characters, and at the bottom of the window in text that persists until you leave the application.

If you use an iOS app that supports common Mac keyboard shortcuts such as ⌘-C (copy), ⌘-V (paste) and ⌘-A (select all), Type2Phone sends those shortcuts to your iPad or iPhone. Similarly, if you've enabled multiple keyboard layouts on your iOS device, you can switch between them by pressing ⌘-<Space>.

You can paste text from your Mac to your iOS device (but not vice versa). As a result, you can compose longer pieces of text, or URLs, on your Mac and then paste them to your iPad or iPhone. And if you have a password stored on your Mac that you need on your iPhone, you can copy and paste it.

Type2Phone works well for typing on our iOS devices and the office Apple TV, and it lets us get by with one keyboard on that desk. If you long to use a full-size keyboard with your iPhone or iPad at your desk, it's an inexpensive alternative to a real keyboard. – DAN FRAKES



Help Desk

Answering your questions and sharing your tips about getting the most from your Mac

Mac OS X Hints

The insider tips you won't get from Apple

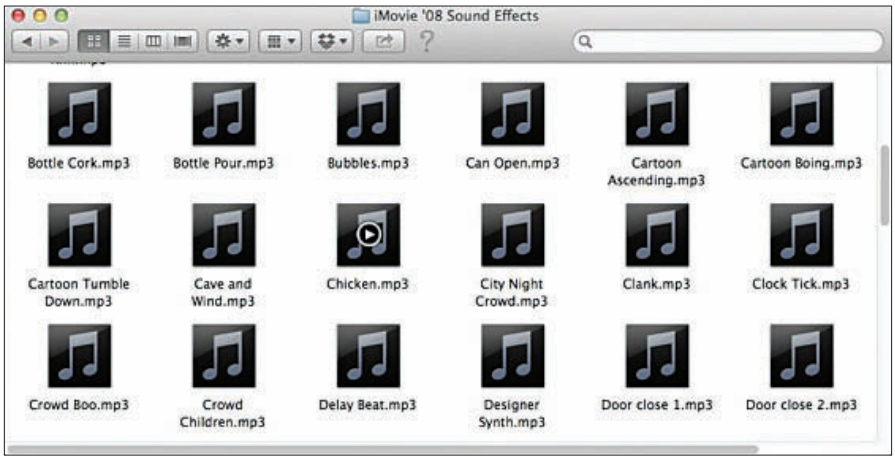
BY KIRK McELHEARN

Change the Notification Center sound alert

The default sound clip that Notification Center uses – the venerable Basso – makes many of us cringe. For some, it's reason enough not to have Notification Center make any sound at all.

But you have a way to change that sound: first, go to *youruserfolder*/Library/Sounds, place a sound in AIFF (Audio Interchange File Format) there, and (regardless of the sound itself) name the file **`Basso.aiff`**. Then, in Terminal, issue the command **`killall NotificationCenter`**. When that's done, Notification Center will use your new sound, whatever it is.

Seeking a good replacement? You can find a treasure trove of sound clips if you have iMovie: <Control>- or right-click the application file, select *Show Package Contents,* and then navigate over to iMovie/Contents/Resources/iMovie '08 Sound Effects. There you'll find 95 different sound files in MP3 format; you can import the one you like into iTunes, and create an AIFF version from there.



Find a sound effect iMovie has a library of 95 sound files in MP3 format; choose one you like to replace Notification Center's default clip.

> If you have iMovie, you can find a treasure trove of sound clips from which to replace Basso, the default clip that Notification Center uses

Allow specific exceptions to Do Not Disturb

The iPhone's Do Not Disturb setting (in Settings ➜ Notifications) is a great way to turn off rings, alerts, and other sounds on your iPhone when you're in a meeting, at a movie or trying to sleep. But this is an all-or-nothing option, with no built-in way to create an 'exceptions' list of people whose calls you want to get whether or not you have Do Not Disturb enabled.

You can, however, use a clever way to get the same exceptions effect. First, in Contacts (on your Mac or at iCloud.com) create a group containing the people you don't want Do Not Disturb to block. (Unfortunately, you can't create groups on the iPhone itself.) Next, on the phone, go to *Settings* ➜ *Notifications* ➜ *Do Not Disturb*. Here, where you can choose to allow calls from Everyone, No One, Favorites, or specific groups, select the group you just created.

Change screensaver slide duration

Many readers have told us they like to use slideshows of images as their screensavers. By default, Mountain Lion presents each slide for three seconds. If that isn't long enough (if, say, you display quotations that need time to be read), use this workaround (a built-in way to define slide duration isn't available).

Open Terminal, and enter: **`sudo /usr/libexec/PlistBuddy -c "set ':JustASlide:mainDuration' 10" /System/Library/PrivateFrameworks/Slideshows.framework/Versions/A/Resources/Content/EffectDescriptions.plist`**



Allow exceptions In your iPhone's settings for Do Not Disturb, you can select a group (created in Contacts on your Mac or in iCloud) to let calls from its members come through.

on the command line. Then press <Return>. You can change the 10 in the command line to whatever number of seconds you want.

Print large Numbers tables on one page

If you create tables in Numbers, you may be frustrated with the way that program prints them – they're often split both horizontally and vertically across multiple pages. But you can improve the results by copying all or part of the table and opening it in Preview: in Numbers, click the dragging square at the top left of the table. (You need to scroll to the top of the table to see it.) Press ⌘-C, open Preview, and press ⌘-N; then print away.

Turn off automatic attachment preview in Mail

By default, Mail provides a preview of attachments, such as graphics and PDF files. However, if you'd rather not see those automatic previews, you can turn them off by running the command `defaults write com.apple.mail DisableInlineAttachmentViewing -bool yes` in Terminal.

After you enter that command, quit and restart Mail. From then on, attachments should appear as icons. To restore the original functionality, run: `defaults write com.apple.mail DisableInlineAttachmentViewing -bool no`.

Extract addresses from a batch of email messages

You may occasionally create a list of the email addresses associated with a batch of messages. You can find many ways to do so, but here's one that works reliably. (We'll assume that the first line of each email message contains the address you want – as in `From: Joe Example` – and that you're using Mail.app.)

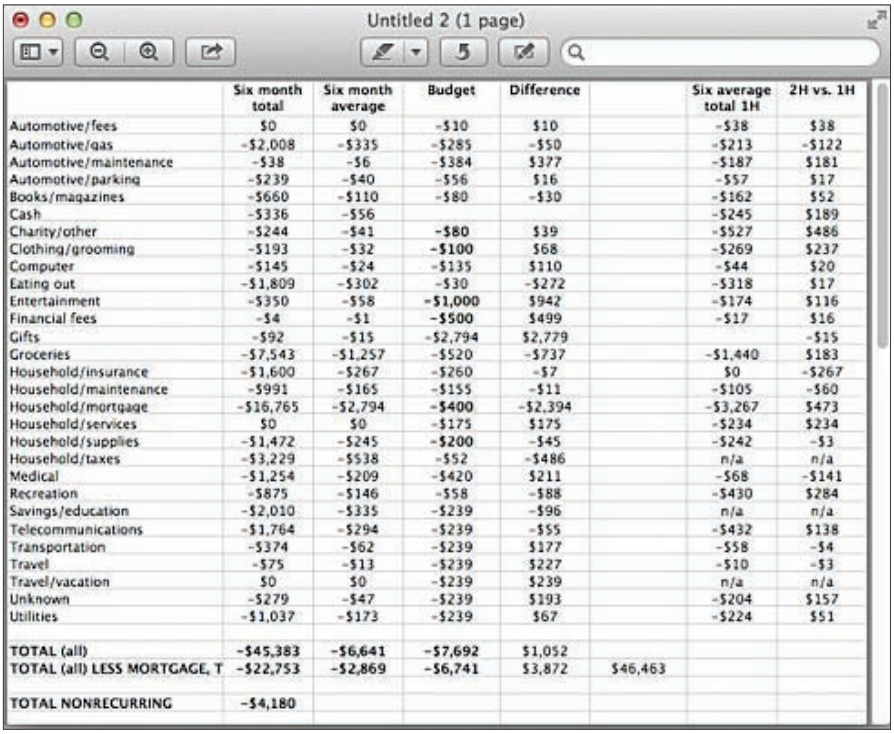
First, create a plain-text archive of the messages: select them in Mail, press ⌘-C to copy them, move to TextEdit, press ⌘-V to paste them there, and save them as a plain-text file (which we'll call *archive.txt*). Next, go to Terminal and issue the command: `grep 'From:' /path/to/archive.txt | cut -f2 -d\< | cut -f1 -d\> | pbcopy`.

(You can, of course, drag the actual file from the Finder to the command line to enter its path.) The *grep* bit pulls out the entire *From:* line; then the first *cut* command grabs the email address and the trailing close bracket, by setting the delimiter to an open bracket. The second *cut* eliminates the closing bracket, by setting that as the delimiter. The output will be one email address per line, sitting on your clipboard ready for pasting.

Fix Dropbox permissions errors

We use Dropbox (via the 2.0 Mac client) to sync a backup of local folders, and run a backup script every evening. Recently one morning, Dropbox was still running hard, and our Mac mini's fan was spinning loudly. We clicked the Dropbox menu item and then the gear button, and saw that some files couldn't be copied because of permissions-denied errors.

It turns out that Dropbox has a hidden feature to fix such things. Open Dropbox preferences, click *Account,* and press <Option>. You'll see the *Unlink This Computer* button change to say *Fix Permissions.* Click that button and let Dropbox go through your files.



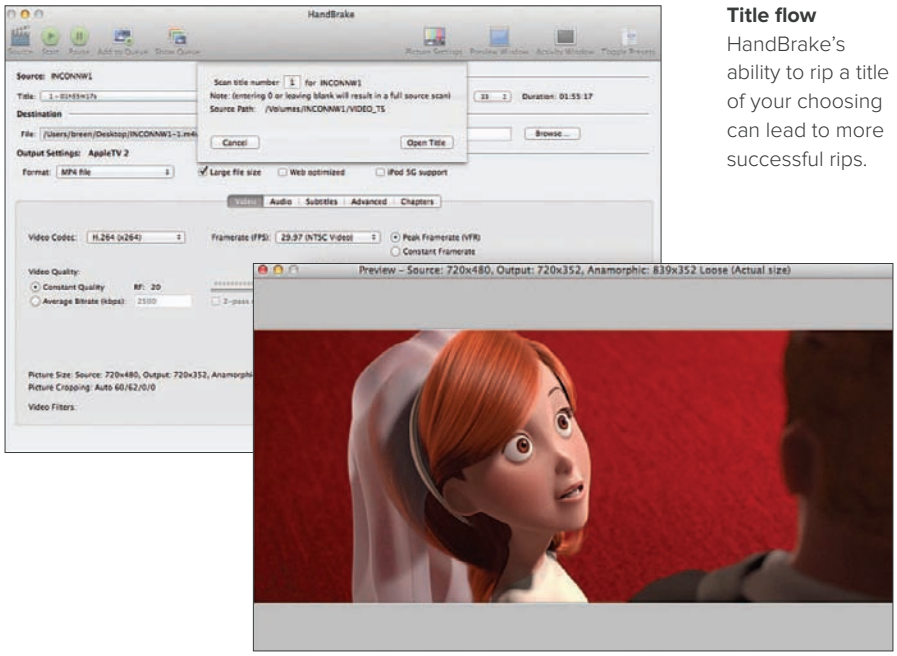
	Six month total	Six month average	Budget	Difference		Six average total 1H	2H vs. 1H
Automotive/fees	$0	$0	-$10	$10		-$38	$38
Automotive/gas	-$2,008	-$335	-$285	-$50		-$213	-$122
Automotive/maintenance	-$38	-$6	-$384	$377		-$187	$181
Automotive/parking	-$239	-$40	-$56	$16		-$57	$17
Books/magazines	-$660	-$110	-$80	-$30		-$162	$52
Cash	-$336	-$56				-$245	$189
Charity/other	-$244	-$41	-$80	$39		-$527	$486
Clothing/grooming	-$193	-$32	-$100	$68		-$269	$237
Computer	-$145	-$24	-$135	$110		-$44	$20
Eating out	-$1,809	-$302	-$30	-$272		-$318	$17
Entertainment	-$350	-$58	-$1,000	$942		-$174	$116
Financial fees	-$4	-$1	-$500	$499		-$17	$16
Gifts	-$92	-$15	-$2,794	$2,779			-$15
Groceries	-$7,543	-$1,257	-$520	-$737		-$1,440	$183
Household/insurance	-$1,600	-$267	-$260	-$7		$0	-$267
Household/maintenance	-$991	-$165	-$155	-$11		-$105	-$60
Household/mortgage	-$16,765	-$2,794	-$400	-$2,394		-$3,267	$473
Household/services	$0	$0	-$175	$175		-$234	$234
Household/supplies	-$1,472	-$245	-$200	-$45		-$242	-$3
Household/taxes	-$3,229	-$538	-$52	-$486		n/a	n/a
Medical	-$1,254	-$209	-$420	$211		-$68	-$141
Recreation	-$875	-$146	-$58	-$88		-$430	$284
Savings/education	-$2,010	-$335	-$239	-$96		n/a	n/a
Telecommunications	-$1,764	-$294	-$239	-$55		-$432	$138
Transportation	-$374	-$62	-$239	$177		-$58	-$4
Travel	-$75	-$13	-$239	$227		-$10	-$3
Travel/vacation	$0	$0	-$239	$239		n/a	n/a
Unknown	-$279	-$47	-$239	$193		-$204	$157
Utilities	-$1,037	-$173	-$239	$67		-$224	$51
TOTAL (all)	-$45,383	-$6,641	-$7,692	$1,052			
TOTAL (all) LESS MORTGAGE, T	-$22,753	-$2,869	-$6,741	$3,872	$46,463		
TOTAL NONRECURRING	-$4,180						

Keep it on one page Prevent Numbers tables from splitting across multiple printed pages by using the square (at top left, but not shown), copying the table, and opening it in Preview.

Mac SOS

Solutions to your most vexing Mac problems

BY CHRISTOPHER BREEN



Title flow
HandBrake's ability to rip a title of your choosing can lead to more successful rips.

When HandBrake won't rip your DVDs

Q. I'd like to rip a DVD that I recently purchased, so I can view it on my iPad. But when HandBrake – the video transcoder program I use – starts scanning the disc, the application crashes. I've tried to do this multiple times and I'm not having any luck. Is there a trick to it?

Steven Pollock

A. There is, but first some important information. In the UK, making a private copy of copyrighted media without the consent of the copyright holder is illegal. However, we (and others) think that, if you own a DVD, you should be able to override its copy protection to make a backup copy or to convert its content for viewing on other devices. Currently, the law isn't entirely clear one way or the other. So our advice on this question is: if you don't own the DVD, don't do it. If you do own the disc, think before you rip.

One way around your problem is to tell HandBrake (handbrake.fr) exactly which title you'd like it to rip rather than having it scan the entire disc (which is its default behaviour) and crash in the process. But that requires knowing exactly which title you want (not as obvious as you may think). To find the correct title, launch DVD Player (found in the Applications folder), play the DVD, walk your way through the junk that appears before the movie, and finally play the main feature. From DVD Player's Go menu, choose *Title* and look for a checked title number – it represents the main feature. Keep this title number in mind, and launch HandBrake.

In HandBrake, choose *File* ➜ *Open Source (Title Specific)*. In the sheet that appears, navigate to the DVD, select its VIDEO_TS folder, and click *Open*. In the sheet that replaces it, enter the title number in the appropriate field (see *Title flow*, left). Click the *Open Title* button, and HandBrake will select that title. Next, choose the preset that you wish to use (Apple TV 2, for example), and click HandBrake's *Start* button. The program should set about ripping the disc's correct title (without crashing).

Alternatively, and, to completely avoid this rigmarole in the future, you could purchase Blu-ray discs that include digital copies of the movies.

If safe boot won't boot

Q. My Mac has been running very slowly lately, and I wanted to see how much faster it would be if I disabled its startup items. When I try to start up in Safe Mode though, it shows the progress bar, but that bar never fills up and my Mac doesn't boot. What's going on?

Simon Hansen

A. For the benefit of readers who are unfamiliar with Safe Mode (also known as Safe Boot mode), let's back up and explain how to access Safe Mode and exactly what it is. You enter Safe Mode by shutting down your Mac and then starting it up while holding down the <Shift> key as soon as your Mac's monitor lights up. You can let go of the <Shift> key when you see the Apple logo and a progress bar.

Have a Problem?

Go to the Mac 911 forum (go.macworld.com/mac911) to ask about your misbehaving Macs and apps.

When the system boots into Safe Mode, the following things happen: the Mac checks the integrity of the directory on the startup volume, loads only required kernel extensions, disables fonts other than those in /System/Library/Fonts, deletes font caches, and disables startup and login items. In addition, DVD Player, iMovie video capture, audio input and output devices, and modems will not function. If you're running Mac OS X 10.5 or later, hardware-accelerated graphics are also kaput. And with OS X 10.6 or later, file-sharing access is disabled, so you won't be able to mount network-attached storage (such as the drive in Apple's Time Capsule).

Now that we're all up to speed, why won't your Mac boot? We'll bet that an external device (or several such devices) is causing the problem. We have multiple external hard drives jacked into our Mac Pro, and we can't boot into Safe Mode – as with your Mac, ours stalls. However, once we shut down the Mac and unplug all those drives, our computer boots into Safe Mode like there's no tomorrow. Since you're booting into Safe Mode specifically to determine how your Mac runs 'naked', doing without those external drives for a while won't hurt you.

And what if you discover that your Mac is a speed demon in Safe Mode but slows down again when you restart your Mac with no keys held down? Then it's time to take the following steps: launch System Preferences, choose *Users & Groups*, select your account, and take a close look at the login items listed. Do without those that you don't absolutely need, and see how your Mac performs.

Dealing with RAM hogging applications

Q. Today I saw a message I'd never seen before. It indicated that my Mac had run out of application memory. In order to keep working, I had to force-quit some of my open applications. Is there a way I could have known which application was causing the problem?

Elsa Pederson

Bugs & Fixes BY TED LANDAU



When Safari bookmarks won't sync One of the best benefits of using iCloud is the ability to sync Safari bookmarks across all your Mac and iOS devices. However, we've found that bookmarks aren't always synced between our computers. If you are likewise troubled, first try quitting and relaunching Safari. If that has no effect, log in to your iCloud account (at www.icloud.com) from Safari. Doing so might jog iCloud into taking the appropriate syncing action. If you still have no success, restart your Mac. If these routine fixes don't work, the typical method for re-establishing syncing is to do the following:

From the Mac with the syncing problem, quit Safari. Launch System Preferences and select the *iCloud* pane. Before doing anything else, select *Account Details* and confirm that you are logged in to the same account as on your other Mac.

Among the list of items on the right, deselect the checkmark next to *Safari*. Wait 30 seconds or so, and reselect the *Safari* option. When a message appears asking if you want to merge your bookmarks, click the *Merge* button. Wait a couple of minutes so your bookmarks have time to sync, and then launch Safari on your other devices. Your bookmarks should now be properly synced.

But what if you've deleted a bunch of out-of-date bookmarks and changed the locations of others? Merging could undo the changes you've made. In such cases, try this:

From the Mac with the syncing problem, quit Safari. Go to the Library folder in your Home directory. (Hold down the <Option> key while selecting the Finder's *Go* menu, and choose *Library*.) Within the Library folder, locate and open the Safari folder. Drag the *bookmarks.plist* file out of the folder to your desktop. Once you're done with the remaining steps and everything seems in order, you can trash the file.

Relaunch Safari. Confirm that all your prior bookmarks are gone. (Don't panic – they're all in iCloud.) Now follow the steps we outlined. This time, when you get to the Merge option, it's okay to click the button. Since no active bookmarks are residing on the Mac, there's nothing to merge incorrectly.



Recover photos lost in an import It's possible that, when you are importing a lot of photographs from your iOS device into iPhoto, the application may crash. And this can leave you with seemingly no imported photos and an iPhone empty of images. This glitch happened us, and the following are the recovery steps we considered.

First, check the Photo Stream album within iPhoto. If you earlier switched on the Photo Stream option within the iPhone's iCloud setting, there's an excellent chance your images are backed up in iPhoto's Photo Stream album (but not videos, since Photo Stream works only with still images).

No success? Because the imported images may be hiding somewhere on your Mac after all (but the Mac is not aware of them because of the crash), you could attempt to rebuild iPhoto's database. Before doing this, however, be sure you have a backup of your iPhoto library (which, by default, is found in your user account's Pictures folder). Equipped with that backup, you can do what you like with iPhoto and be assured you can always return it to its current state. You rebuild the iPhoto database by launching iPhoto while holding down both the ⌘ and <Option> keys. From the window that appears, select *Repair Database*.

If iPhoto comes up empty, it's time to think about where you might have backed up your images. For example, if you've backed up your iPhone to your iTunes library or to iCloud, restoring that backup could bring back your pictures.

Share your problems at bugs@macworld.com or on Macworld.com's Mac 911 forum.

A. Yes. In some cases, the misbehaving application will appear in red, followed by the words 'Not Responding' – a strong hint it has consumed so much RAM it can no longer move. One way to tell if indeed the problem app is to force-quit a different program. If the once-red application starts responding again, that tells you that it's now happy because it has more RAM to chew on.

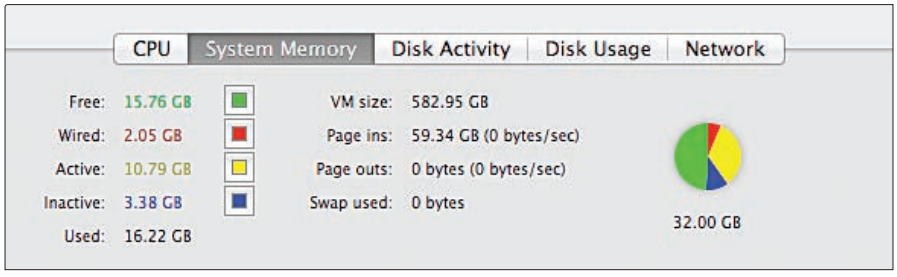
The list of applications may not contain a single one appearing in red, though. In either case, you should check Activity Monitor (in /Applications/Utilities), as it will detail exactly what's going on.

Once you've launched Activity Monitor, click the *Real Mem* column so the listed applications are organised by the amount of RAM they're using. If you see one that's gobbling up enormous amounts of memory, you've nailed the culprit. Quit it and relaunch it, and see how much memory it now uses. The amount should be quite a bit less than before. If the error pops up again in the next day or so, see if there's an update for the application – the version you're currently using could have a flaw that is causing it to overeat.

If you wish to learn more about the amount of memory your Mac's apps consume, click Activity Monitor's *System Memory* button at the bottom of the window. When you do, you'll see a pie chart that shows you how the computer's memory is allocated – free, wired, active, inactive, and used memory appear here (see *Recovered memory*, below). If your free memory is down to a couple of dozen megabytes and the pie chart shows almost no green (the default colour assigned to free memory), you're riding on the edge of another error. Again, check that Real Mem column and kill any application that's hogging RAM.

If you're obsessive about this kind of thing, here's an easier way to quickly eyeball your Mac's memory usage. With Activity Monitor running, click and hold on its Dock icon, and from the menu that appears choose *Dock Icon* ➔ *Show Memory Usage*. The memory chart that's shown at the bottom of Activity Monitor is now displayed in the Dock, and the chart is updated in real time.

More obsessive still? Check out Bjango's iStat Menus 4 (£10.64, bjango.com). With this utility, you can track CPU usage, memory usage, network activity, disk usage and activity, internal temperatures, and the current state of your Mac's battery. A snapshot of all this information (or less, if you configure the application that way) appears in your Mac's menu bar. When our Macs act up, the first thing we do is glance at iStat's stats – its info is invaluable.



Recovered memory Activity Monitor can tell you how your Mac's memory is being used.

Mac 101

Pausing the Parental Controls timer

Q. I use Parental Controls with my grandchildren, and it works well. The problem is that when they walk away from the Mac, the clock keeps ticking on their time limit. Is there some way for them to stop the clock?

via the internet

A. Yes. When you've configured a limit based on the amount of time that the Mac can be used over the course of a day (from half an hour to eight hours), logging out of the controlled account will stop the clock. Simply tell your grandchildren to choose *Log Out* from the Apple menu when they want to go off and do something else. The Mac switches to the login screen, and the ticking timer stops. When they next log in, the timer starts again from where it left off. (The kids can see how much time remains by clicking the menu bar clock.)

If you'd like them to start using the Mac again without begging you to log in to it, just give them the password for that account, and they can log in themselves. Before giving them that password though, triple-check you haven't created a controlled account with administrator's privileges. Lacking those privileges, they can't engage in much mischief.



Repairing a muted Mac

Q. I woke my MacBook Pro from sleep today and it makes no sound. In the Sound system preference only Digital Out shows. What should I do?

Kenneth Walsh

A. A small sensor switch inside the headphone jack must be tripped correctly, or the sensor may believe you have a digital audio device plugged in. In your case, that switch is probably stuck. You can unstick it in a couple of ways.

The safest is to run a headphone jack in and out of the port a few times (a toothpick can also do the job). Much of the time, this takes care of the problem by correctly tripping the sensor. If that doesn't work, get a can of compressed air, attach the small tube that fits the nozzle, and blast a few shots of air into the port. With any luck, that should dislodge any gunk and the port will operate as it should.

No matter which iOS device you have, we have the Complete Guide for you



Available to download in digital format through Zinio, Magzter and Macworld's free Newsstand App.
For details, go to www.macworld.co.uk/digital-editions

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Buyers' Guide

Mac Pro

DISCONTINUED



Apple has been forced to remove the Mac Pro from sale in Europe after an amendment to a safety regulation left the professional Mac incompliant.

The amendment to the IEC 60950-1 regulation increases requirements around electrical port protection and the fan guards in the system. The Mac Pro met the previous standards prior to the amendment 1 addition. Apple told Macworld that it considers the Mac Pro to be a very safe and reliable product.

News that Apple is taking the Mac Pro off sale in Europe will no doubt raise concerns from the professional Mac market. While the Mac Pro received a minor update following WWDC last summer, the last significant update was in 2010.

However, Apple CEO Tim Cook laid concerns to rest in an email to a customer last year in which he stated: "Our Pro customers like you are really important to us. Although we didn't have a chance to talk about a new Mac Pro at today's event, don't worry as we're working on something really great for later next year. We also update the current model today."

Pros: Powerful; 12-core option; Turbo Boost and Hyper-Threading
Cons: Not much of an update from the 2010 Mac Pros
Macworld review: bit.ly/MDqbaR

iMac

UPDATED 23/10/12



The first thing you'll notice about Apple's latest iMac is that it's an impressive 40 per cent thinner than its predecessor. It still has the same aluminium design that's been in place for more than five years, but the insides have been re-engineered to make it lighter and thinner.

Like Apple's MacBook Air and Retina MacBook Pro models, the new iMacs are lacking an optical drive, leaving some users unhappy. As for the screen, this is now 75 per cent less reflective, and the company has made the LCD 5mm thinner. It's available in 21.5in and 27in sizes, with prices starting at £1,099 for a 2.7GHz quad-core i5 version of the smaller model.

Among the build-to-order options is the newly announced Fusion Drive – a hybrid storage device combining flash storage with a regular hard drive. It features 128GB of flash storage and 1TB or 3TB of hard drive capacity. This option is available for an additional £200 on all iMac models, excluding the £1,099 base model.

Pros: Thin design; updated processor; more RAM; better speakers; reduced glare
Cons: Less repairable; no optical drive or FireWire 800 ports
Macworld review: bit.ly/WZ7ZsO

MacBook Pro

UPDATED 11/06/12

With all the exhilaration surrounding the Retina MacBook Pro's debut, it was easy to overlook the fact that Apple also upgraded the rest of its pro laptop line-up. The new 'regular' models offer a speed boost over their late-2011 predecessors thanks to brand new processors and video components, and feature updated technology.

The traditional MacBook Pros hold fast to their unibody form factor and design, upgradeability and price, and target the mid-market of non-creative professionals that seeks to balance features with affordability. The new models are not flashy like the new Retina MacBook Pros, but offer advantages in price and the flexibility to get into the system and tailor it to your needs after purchase.

If you bought one of the MacBook Pros in 2011, there's no compelling reason to purchase one of these new machines. However, if you've been hanging on to an older system and are experiencing sluggish performance, you won't be sorry if you picked up one of these new laptops.



Pros: USB 3.0; Intel Core i7 Ivy Bridge processors; Nvidia graphics; Thunderbolt
Cons: No 17in model available
Macworld review: bit.ly/NHU9K7

MacBook Air

UPDATED 11/06/12

The 2012 MacBook Airs are easily the best yet. Thanks to upgraded processors and graphics capabilities, along with both Thunderbolt and USB 3.0 for expansion, it's getting tougher to say the Air isn't a 'full featured' laptop. And you no longer have to give up a good chunk of performance if you want to go light. Thanks to flash storage, both 2012 models are competitive with Apple's current hard-drive equipped 13in MacBook Pro models. In fact, if you don't need a 15in screen and lots of storage space, it's now tough for many people to justify a MacBook Pro over a lighter and more-portable Air.

As for deciding between the 11in and 13in Air models, with the exception of he 13in Air's SD card reader, your choice mainly comes down to screen size and battery life.

If you bought a MacBook Air last year, the performance boost is significant, but it probably isn't worth buying a new machine. If you've got a 2011 Air, the 2012 models offer major performance improvements, and if you've got a 2009 or older air, upgrading is a no-brainer.



Pros: Thin, light design; Intel Core i7 processor; Thunderbolt; USB 3.0
Cons: MagSafe 2 power connector not compatible with older MacBooks
Macworld review: bit.ly/KYa8oU

Expert Advice

www.macworld.co.uk/speedmark

MacBook Pro Retina display

UPDATED 13/02/13



The MacBook Pro with Retina display is not just a groundbreaking release, combining stunning performance and portability in a Mac laptop. The beautiful screen will also force you to change the way you interact with a laptop. Its numbers are truly mind-boggling: 2,880 x 1,800 pixels – that's 220 pixels per inch – for a total of 5.18 million pixels on a 15.4in backlit screen.

The processors used in this range are part of Intel's Ivy Bridge technology, which are smaller and more power efficient than the previous generation of Sandy Bridge chips. The Retina MacBook Pro is the future of Apple's laptop line – and it's a bright, shining symbol of excellence. The display is something to be marvelled at, and the lightweight, smaller design addresses the demand for our devices to be even more portable.

And now, Apple has introduced a new, 13in model to join the Retina family. It's the lightest MacBook Pro ever and has a resolution of 2,560 x 1,600 pixels.

Pros: Stunning Retina display; USB 3.0; thinner design; Ivy Bridge processors
Cons: No optical drive; expensive; flash storage
Macworld review: bit.ly/MWqckZ

iPad mini

UPDATED 02/11/12

Apple's iPad mini is a 7.9in tablet that's just 7.2mm thick, making it 23 per cent thinner than the full-size iPad. It weighs half as much as Apple's third-generation tablet, and has the same 1,024 x 768 resolution as the iPad 2, so existing iPad-optimised apps will work on this new model. The device is available in white with silver, or black with slate, much like the iPhone 5.

The iPad mini uses Apple's dual-core A5 chip, it has a FaceTime HD front-facing camera and a 5-megapixel iSight camera on the back. It also has LTE 4G capabilities.

Of course, it uses the new Lightning connector. Apple says that, like other iPads in its line-up, it still offers 10 hours of battery life; the company boasts that the iPad mini uses the largest and thinnest battery its ever made.

Apple offers a range of new Smart Covers with its tiny tablet too, which are available in a range of colours.



Price: Wi-Fi: £269 to £429, Wi-Fi + 4G: £369 to £529
Pros: Incredibly thin and light; Siri; 1080p video recording; Wi-Fi and 4G LTE
Cons: No Retina display; price higher than rivals; A5 processor isn't cutting-edge
Macworld review: bit.ly/TRODUm

Mac mini

UPDATED 23/10/12

Of all the hardware changes unveiled on 23 October, the Mac mini's were probably the most modest – at least on the outside. Externally, it's more or less unchanged from its previous incarnation, save for the introduction of USB 3.0 ports. It still has Thunderbolt and HDMI sockets, as well as an SDXC card reader. It's 7.7 inches square and 1.4 inches deep, which is where it earn its 'mini' name.

Inside, however, this has faster processors. Apple claims it's up to twice as fast – a 2.5GHz dual-core i5 chip and 500GB hard drive in the £499 model, and a 2.3GHz quad-core i7 chip with a 1TB hard drive in the £679 option. Both have improved graphics, while the new Fusion Drive is an optional configuration.

An £849 mini with OS X server is also available, featuring a 2.3GHz quad-core i7 processor, improved graphics and larger hard drives.

The Mac mini ships with OS X Mountain Lion (or Mountain Lion Server), and is available to order from Apple now.



Pros: USB 3.0, faster graphics; quad-core processors; optional Fusion Drive
Cons: No optical drive; doesn't come with a monitor or keyboard
Macworld review: bit.ly/Tw031N

iPad with Retina Display

UPDATED 23/10/12

Despite unveiling the third-generation iPad just seven months previously, Apple launched its fourth-generation tablet – known as the iPad with Retina Display. The new device uses the company's own A6X chip, a new processor that further improves upon the speed performance of the A6. Apple claims that it's twice as fast as the A5X, with double the graphics performance. It gets the same 10 hours battery life as the third-generation iPad.

New to the fourth-generation iPad is a FaceTime HD front-facing camera and a Lightning port that replaces the 30-pin connector of old. And, according to Apple, the Wi-Fi is twice as fast as in the previous generation. The new tablet replaces the iPad 3 completely, and sits in the new iPad line-up, alongside the iPad 2 and mini. It follows the same pricing as the third iPad did, starting at £399.



Price: Wi-Fi: £399 to £639, Wi-Fi + 4G £499 to £739
Pros: Fast processor and graphics enhancements; 4G works in UK; Retina display
Cons: Lightning adaptor; quite heavy; gets expensive when you add memory
Macworld review: bit.ly/RFkPxz

Buyers' Guide

iPhone 5

UPDATED 12/09/12

The iPhone 5 is a lot lighter and thinner than its predecessor; the 4S. It also has a taller, 4in screen that allows an additional row of icons to be displayed on the home screen, and the Retina display ensures that photos and video look fantastic. The handset also has an improved camera and an HD FaceTime camera.



Apple's latest handset has 4G LTE capabilities, which are available in some parts of the UK, with wider coverage expected later this year. The new iPhone is said to have better Wi-Fi, too.

The device is powered by a new A6 processor, which Apple claims is two times faster than the A5 used in the 4S. The battery life has also been given a boost.

One of the more controversial additions is the 'Lightning' connector, which is smaller than its predecessor, so you'll need to buy an adaptor for your older accessories.

Price: 16GB £529, 32GB £599.99, 64GB £699
Pros: New taller 4in screen; thinner; lighter; better battery life
Cons: Lightning connector means you'll need an adaptor for old accessories
Macworld review: bit.ly/Qzhptd

iPod touch

UPDATED 12/09/12

The iPod touch has had a bright update, with new colours added, including pink, yellow and blue, to appeal to the teenage market that the device dominates. It hasn't just had a makeover, though; it gains the same 4in Retina display as the iPhone 5, and this widescreen means our biggest wish for the iPod touch has been granted.

Like the iPhone 5, the device has grown a little taller, but it's now just 6.1mm thick and weighs 88g, so you'll hardly notice it's in your pocket. The touch also has an A5 chip, one generation up from last year's A4-equipped model, which means that this iPod can run Siri – Apple's voice-recognition software.

A 5-megapixel iSight camera has been added to the back of the touch, which is capable of recording 1080p video.

The one wholly new feature is the wrist strap and the spring-loaded button for attaching it.



Price: 32GB £249, 64GB £329
Pros: Colour choices; compact camera alternative; high tech features; A5 chip
Cons: An unlocked iPhone 4 might be an alternative option worth considering
Macworld review: bit.ly/TEdLns

iPod nano

UPDATED 12/09/12

In the case of the iPod nano, bigger is definitely better, but this is by no means a big nano. Compared to its predecessors, this really is a feat of engineering. It's the thinnest iPod model yet, a massive 50 per cent leaner than the previous generation at 5.4mm, and while it's longer than its square predecessor, it's shorter than all bar the squat third-generation version, and is narrower than the previous model, too. It really is a tiny device that packs a lot of functionality into the palm of your hand. The nano also has a built-in pedometer for fitness fans, though the lack of a clip could prove a problem to joggers.

The multi-touch display is 2.5in thin, and is sufficient for the slimmed down operating system that the iPod nano runs.

We can see the new colours appealing to the younger market, though it's a bit pricey at £129.



Price: £129
Pros: Plays video in widescreen; small; colours will appeal to some
Cons: No clip; last year's iPod touch is available for £20 more
Macworld review: bit.ly/RtcVIW

iPod classic

UPDATED 09/09/09

Lacking the connectivity and wide screen of the iPod touch and the nano's array of tricks, the classic doesn't feel new or innovative. It's brilliant if you want to take a large collection of your media with you. It's got 160GB of space, which represents excellent value for money. The interface is slicker and more helpful, too.



Price: £199
Pros: Excellent battery life; improved UI
Cons: Sluggish interface; unresponsive controls
Macworld review: bit.ly/GXUiHK

iPod shuffle

UPDATED 12/09/12

At £40 for 2GB of storage, the fourth-generation shuffle is not only the perfect entry-level iPod, it's also a solid second device for iPhone users who want to keep it simple while excercising.



Price: £40
Pros: Smart looks; much-improved controls i5
Cons: No way to lock controls
Macworld review: bit.ly/GWLQnj

Expert Advice

www.macworld.co.uk/speedmark

Product	Processor	Display	RAM	Storage	Ports & connections	Graphics card	Star rating	Price	Speedmark 8 score*
Mac mini 	Dual-Core Intel Core i5 2.5GHz	None	4GB	500GB (5,400rpm)	Thunderbolt, FireWire, HDMI, SDXC, 4 x USB 3.0	Intel HD Graphics 4000	★★★★☆	£499	131
	Quad-Core Intel Core i7 2.3GHz	None	4GB	1TB (5,400rpm)	Thunderbolt, FireWire, HDMI, SDXC, 4 x USB 3.0	Intel HD Graphics 4000	★★★★☆	£679	164
	Quad-Core Intel Core i7 2.3GHz (server)	None	4GB	2 x 1TB (5,400rpm)	Thunderbolt, FireWire, HDMI, SDXC, 4 x USB 3.0	Intel HD Graphics 4000	N/A	£849	
iMac (Late 2012) 	Quad-Core Intel Core i5 2.7GHz	21.5in LED (BL)	8GB	1TB (5,400rpm)	2 x Thunderbolt, SDXD card slot, 4 x USB 3.0	Nvidia GeForce GT 640M (512MB)	★★★★☆	£1,099	194
	Quad-Core Intel Core i5 2.9GHz	21.5in LED (BL)	8GB	1TB (5,400rpm)	2 x Thunderbolt, SDXD card slot, 4 x USB 3.0	Nvidia GeForce GT 650M (512MB)	★★★★☆	£1,249	204
	Quad-Core Intel Core i5 2.9GHz	27in LED (BL)	8GB	1TB (7,200rpm)	SDXD card slot, 4 x USB 3.0, 2 x Thunderbolt	Nvidia GeForce GTX 660M (512MB)	★★★★☆	£1,499	224
	Quad-Core Intel Core i5 3.2GHz	27in LED (BL)	8GB	1TB (7,200rpm)	2 x Thunderbolt, SDXD card slot, 4 x USB 3.0	Nvidia GeForce GTX 675MX (1GB)	★★★★☆	£1,699	238
Mac Pro 	Quad-Core Intel Xeon 3.2GHz	None	6GB	1TB (7,200rpm)	18x SuperDrive (DL), FireWire, PCI Express	ATI Radeon HD 5770 or HD 5870 (1GB)	★★★☆☆	Not available	200
	Twelve-Core Intel Xeon 2.4GHz	None	12GB	1TB (7,200rpm)	18x SuperDrive (DL), FireWire, PCI Express	ATI Radeon HD 5770 or HD 5870 (1GB)	★★★☆☆	Not available	215
MacBook Pro with Retina Display 	Quad-Core Intel Core i7 2.4GHz	15in Retina	8GB	265GB Flash storage	Thunderbolt, USB 3.0, HDMI, SD card slot	Intel HD Graphics 4000 & Nvidia GeForce GT 650M	★★★★★	£1,799	257
	Quad-Core Intel Core i7 2.7GHz	15in Retina	8GB	512GB Flash storage	Thunderbolt, USB 3.0, HDMI, SD card slot	Intel HD Graphics 4000 & NVIDIA GeForce GT 650M	★★★★★	£2,299	275
	Dual-Core Intel Core i5 2.5GHz	13in Retina	8GB	128GB Flash storage	Thunderbolt, USB 3.0, HDMI, SD card slot	Intel HD Graphics 4000	★★★★★	£1,249	184
	Dual-Core Intel Core i5 2.6GHz	13in Retina	8GB	256GB Flash storage	Thunderbolt, USB 3.0, HDMI, SD card slot	Intel HD Graphics 4000	★★★★★	£1,449	184
MacBook Pro 	Dual-Core Intel Core i5 2.5GHz	13in LED (BL)	4GB	500GB (5,400rpm)	USB 3.0, SD card slot, FireWire, Thunderbolt	Intel HD Graphics 4000	★★★★☆	£999	121
	Dual-Core Intel Core i7 2.9GHz	13in LED (BL)	8GB	750GB (5,400rpm)	USB 3.0, SD card slot, FireWire, Thunderbolt	Intel HD Graphics 4000	★★★★☆	£1,249	153
	Quad-Core Intel Core i7 2.3GHz	15in LED (BL)	4GB	500GB (5,400rpm)	USB 3.0, SD card slot, FireWire, Thunderbolt	Intel HD Graphics 4000 & Nvidia GeForce GT 650M (512MB)	★★★★☆	£1,449	161
MacBook Air 	Dual-Core Intel Core i5 1.7GHz	11in LED	4GB	64GB Flash storage	USB 3.0, Thunderbolt	Intel HD Graphics 4000	★★★★★	£849	151
	Dual-Core Intel Core i5 1.7GHz	11in LED	4GB	128GB Flash storage	USB 3.0, Thunderbolt	Intel HD Graphics 4000	★★★★★	£929	175
	Dual-Core Intel Core i5 1.8GHz	13in LED	4GB	128GB Flash storage	USB 3.0, Thunderbolt, SD card slot	Intel HD Graphics 4000	★★★★★	£999	166
	Dual-Core Intel Core i5 1.8GHz	13in LED	4GB	256GB Flash storage	USB 3.0, Thunderbolt, SD card slot	Intel HD Graphics 4000	★★★★★	£1,199	166

*Speedmark 8 is Macworld's standard test tool for benchmarking systems running Mountain Lion

*Longer is better

Buyers' Guide



Lightning to 30-pin adaptor

Macworld.co.uk review: bit.ly/QwNfqF ★★★★☆

Apple, www.apple.com/uk, £25

If you want to connect the iPhone 5 to an speaker system with a 30-pin dock, or other 30-pin audio or syncing dock device, then this is the way to do it (although we'd suggest the version with a cable to avoid the precarious balancing act). We're disappointed that it only works with audio and not video.

Pros: Enables you to connect the iPhone 5 to older dock and speaker systems

Cons: Puts an extra two centimetres on the iPhone 5; Lightning feels a bit small to be holding up an iPhone; doesn't output video



Thunderbolt Display

Macworld.co.uk review: bit.ly/HWJyse ★★★★☆

Apple, www.apple.com/uk, £899

For owners of the 2011 MacBook Air, the Thunderbolt Display is a fantastic way to get iMac-like features in one of the lightest laptops available. If your Mac has Thunderbolt, FireWire 800, and Gigabit Ethernet, the fairly inflexible Thunderbolt Display is a little less interesting.

Pros: Can charge Apple laptops; USB 2.0, FireWire 800 and Ethernet connectivity; single cable from Mac cuts down clutter

Cons: Stand lacks flexibility; reflective screen limits display placement; few customisation options



27in LED Cinema Display

Macworld.co.uk review: bit.ly/Iy2E3B ★★★★☆

Apple, www.apple.com/uk, £899

Apple's 27in LED Cinema Display makes a good companion to any Mac with a Mini DisplayPort connection, but is especially well suited to portable Mac users who can take advantage of the MagSafe power connector and the display's USB ports to attach peripherals.

Pros: MagSafe connector to charge Mac portables; built-in speakers and iSight

Cons: Limited adjustment options; glossy screen is prone to glare; Apple doesn't officially support using the display with anything but Mini DisplayPort



Magic Trackpad

Macworld.co.uk review: bit.ly/HL25V6 ★★★★☆

Apple, www.apple.com/uk, £59

If you're a big fan of the multi-touch trackpads on Apple's laptops, the Magic Trackpad is for you. It gives you the same clickable, glass surface and Multi-Touch gestures, as those laptop trackpads in a wireless desktop model – with the bonus of nearly twice the trackpad area.

Pros: Large multi-touch surface; works identically to Apple's laptop trackpads; rugged, portable design matches Apple's keyboards; easy setup

Cons: Not as precise as using a mouse or trackball; not ideal for large screens or multiple displays



Magic Mouse

Macworld.co.uk review: bit.ly/HHHS2m ★★★★☆

Apple, www.apple.com/uk, £59

Although it's not perfect, the Magic Mouse successfully combines design and usability. It's great as a two-button wireless mouse, but if you need more than two buttons, the Magic Mouse is not for you.

Pros: Looks stunning; Multi-Touch is easy to master; excellent tracking; very fast reconnect after idle

Cons: Low profile; July not be comfortable for larger hands; some modes are confusing; buttons and speed settings can't be programmed; expensive



Apple Keyboard

Macworld.co.uk review: bit.ly/IS6gQ3 ★★★★☆

Apple, www.apple.com/uk, £56

As a portable option that makes typing more comfortable, Apple's own Bluetooth keyboard also complements any iOS device, although you would need an additional case or stand for your iPhone or iPad to make typing truly convenient.

Pros: Low profile; lightweight; portable; Apple function keys; instant pairing; great brushed-aluminium styling

Cons: Some function keys missing; no carry case; no numeric keypad; could be too cramped for some users; no dock for iOS devices



Apple TV

Macworld.co.uk review: bit.ly/ziApHe ★★★☆☆

Apple, www.apple.com/uk, £99

At £99, the third-generation Apple TV continues to be as excellent a value as the previous model - and now it supports higher-quality video too. Unfortunately the content that you can play on it is still very limited in the UK.

Pros: Minimal design; easy to set up and start using; automatically syncs with iTunes; small and quiet; much lower price than before

Cons: No longer offers a hard drive; focused on movie and TV rentals via iTunes but prices seem high and the model July not suit the UK audience



Time Capsule

Macworld.co.uk review: bit.ly/HHIo09 ★★★★★

Macworld EDITORS' CHOICE

Apple, www.apple.com/uk, 2TB £249, 3TB £399

Apple's latest Time Capsules are what any good networking and backup devices should be: easy to set up, manage, and forget about. The new Time Capsule is well worth it.

Pros: Unique RAID system for different sized drives; faster than original

Cons: Not quite as speedy as hoped



AirPort Extreme

Macworld.co.uk review: bit.ly/HCpTel ★★★★☆

Apple, www.apple.com/uk, £139

The latest version of the AirPort Extreme Base Station packs in a ton of features, as well as speed, into a small, reasonably priced package. If you're looking to replace your current Wi-Fi router, you can't go wrong with the AirPort Extreme.

Pros: Good range and coverage; simultaneous dual-band ensures all devices get fastest connections possible; compatible with any Wi-Fi device

Cons: Only three switched Ethernet ports; external power adaptor adds bulk



AirPort Express

Macworld.co.uk review: bit.ly/YeXMsn ★★★★☆

Apple, www.apple.com/uk, £79

Owning an Apple router is a great option for those multiple Apple devices, and it's an easier and smarter way to set up and manage a network in the home or small office. There's not much between an AirPort Express and AirPort Extreme, although it's big brother's faster Ethernet connections and external hard drive support may be worth paying the extra for.

Pros: Small and neat; AirPlay functionality; dual antennas; good software interface that can be used from Mac or iOS device

Cons: No longer plugs directly into a wall; only has 100base-T Ethernet sockets

Star Ratings

www.macworld.co.uk/speedmark



Podcasts 1.2

Macworld.co.uk reviews: bit.ly/14qVizv ★★★★★

Macworld EDITORS' CHOICE

Apple, www.apple.com/uk, free

If you've been put off by the Podcasts app's past limitations and questionable interface elements, it's time to revisit it. Podcasts 1.2 is the version Apple should have shipped all along. Playlists (called Stations) have been added, iCloud syncing has been implemented to ensure synchronisation between devices and the interface has been improved.

Pros: Supports playlists; improved user interface; iCloud syncing

Cons: Skeuomorphic fans will miss the tape deck design



iTunes 11

Macworld.co.uk reviews: bit.ly/TBKkB0 ★★★★☆

Apple, www.apple.com/uk, free

iTunes 11 is worth installing. The speed and stability improvements alone make it worthwhile to us. We also like most of the new features, especially Up Next and the visual Album Folders. The cleaner style is welcome too. On the whole, it's a lot better than its predecessor.

Pros: 64-bit code runs much faster than before; Up Next, Playback Sync and MiniPlayer all great features; cleaner more stylish interface

Cons: Removal of Sidebar is a bit of a shock (you can get it back though); iTunes Match could be better; no Gapless Playback or View Duplicates



iLife: iMovie, GarageBand & iPhoto '11

Macworld.co.uk reviews: bit.ly/HZJw23, bit.ly/QePiz2, bit.ly/bxiiTB ★★★★☆

Apple, www.apple.com/uk, £45, or £8.99

iMovie '11 has a few standout features and other enhancements. The changes in GarageBand – expanded lessons, How Did I Play, and the addition of Flex Time and Groove Matching – are useful. The improved code and polished UI of iPhoto improve the overall experience.

Pros: iMovie: improved audio editing, fun Movie Trailers. GarageBand: Flex Time and Groove Matching. iPhoto: improved Facebook and Flickr integration

Cons: iMovie: no native AVCHD editing or direct import. GarageBand: Limited external control of amps and effects. iPhoto: editing controls untouched



iWork: Pages, Keynote & Numbers '09

Macworld.co.uk review: bit.ly/HMs6IZ, bit.ly/ISfXO8, bit.ly/HNpfxC ★★★★☆

Apple, www.apple.com/uk, £69, or £12.99

Pages '09 is an excellent update to what was already a good, but limited word processing and consumer-oriented page layout program. If you create presentations Keynote is worth the price of iWork. Power users will still find Excel superior to Numbers.

Pros: Pages: Full Screen, Outline modes. Keynote: animation tools; Theme Chooser. Numbers: Beautiful templates; added functions.

Cons: Pages: no 'shared file' warning. Keynote: Audio can't span selected slides; no support for QuickTime VR. Numbers: limited printing options



Safari 6

Macworld.co.uk review: bit.ly/ShNqFF ★★★☆☆

Apple, www.apple.com/uk, Free

Normally we'd advise you to install Safari 6, and if you've upgraded to Mountain Lion you'll already have done so. But if you're on OS X 10.7 Lion, you July want to wait for an update to see if some of the speed issues are sorted out. All the new features are great, but some basic functions are hard to find.

Pros: Twitter integration, the offline reading list and Tab View are all useful; iCloud Tab share is interesting; Smart Search is more straightforward to use

Cons: Seems to have speed issues on OS X 10.7 Lion; Bookmarks and email features are too well hidden for us; developers aren't impressed with Developer Tools



Aperture 3

Macworld.co.uk review: bit.ly/HMjIls ★★★★☆

Apple, www.apple.com/uk, £54.99

A lot has changed in this version of Aperture, so much in fact that it feels a little different, but it's all the better for it: improved RAW engine, updated sorting options, more powerful search features, much more versatile adjustments tools, among many others.

Pros: Vastly improved slideshows; impressive new brushes; multi-touch aware; ability to split and merge libraries; easy export to Flickr and Facebook

Cons: Sporadic reports of problems when upgrading older libraries; web page creation not overhauled; need a powerful Mac and lots of RAM to run well



Final Cut Pro X 10.0.3

Macworld.co.uk review: bit.ly/OB7RIr ★★★★☆

Apple, www.apple.com/uk, £199.99

With FCP X 10.0.3, the ugly ducking feel is receding. While many improvements are still needed, especially for those who work in multi-user environments, this update indicates that Apple is listening to the concerns of the video community that put Final Cut Pro on the map.

Pros: Multicam; relink media; automatic backup; migrate previous projects; multiple small improvements

Cons: External monitoring still in beta; reliance on third-party support for key features



Logic Express 9

Macworld.co.uk review: bit.ly/HZMBPD ★★★★★

Macworld EDITORS' CHOICE

Apple, www.apple.com/uk, £159

Logic 9 is first-class home-recording software for all types of musicians, especially guitarists. It offers streamlined audio editing, plenty of loops and instruments, stacks of virtual amps/speakers and pedals for guitarists, and it reads GarageBand files.

Pros: Plenty of virtual amp/speaker/pedal combos; ability to add chord diagrams to printed music; lots of loops and instruments; high-quality effects

Cons: Interface still dense despite streamlining; could use more templates and a tutorial for beginners



OS X Mountain Lion

Macworld.co.uk review: bit.ly/LgdJwB ★★★★☆

Apple, www.apple.com/uk, £13.99

Mountain Lion is a solid update, with a great collection of new features. While nothing in the interface has hugely changed, we like the implementation of Notification Center. Perhaps of more importance are all the subtle interactions of iCloud, and in this sense the OS is a triumphant success.

Pros: iCloud is far more integrated; Notifications Center is great; Twitter and Facebook sharing is useful; Reminders and Notes both well implemented

Cons: Quite a few design inconsistencies; Documents in the Cloud isn't intuitive to use after years of Finder usage



iOS 6

Macworld.co.uk review: bit.ly/KywxnP ★★★★☆

Apple, www.apple.com/uk, Free

Apple's iOS 6 is the latest version of its mobile operating system for iPad, iPhone and iPod touch. Apple says there are more than 200 new features in total, including a new Apple Maps app with 3D capabilities, Siri improvements, Passbook, Facebook integration, Do Not Disturb, and more.

Pros: Free update; new Maps app with Flyover and Yelp reviews; Siri is much better; Siri for iPad is great; Facebook integration is useful

Cons: Will not be available for older devices; some features limited on iPhone 3GS, iPhone 4, and iPad 2; Maps information not as detailed as Google Maps

Buyers' Guide

iOS APPS: GAMES



Ridiculous Fishing

Macworld.co.uk review: bit.ly/11dE2wt ★★★★★

Macworld EDITORS' CHOICE

Vlambeer, www.supercratebox.com, £1.99

A small, simple idea realised with remarkable aplomb and high humour. Vlambeer's game removes all traces of tedium or even reality from fishing, instead turning it into a wonderfully compulsive game of challenging yourself. It even makes oft-mocked tilt controls seem like a good idea for once.

Pros: Consistently absurd; joyous IAP-free upgrades; super-polished

Cons: Tilt controls can be flakey; the RSPCA will be cross with you



Year Walk

Macworld.co.uk review: bit.ly/12jeC14 ★★★★☆

Year Walk, www.simogo.com, £2.49

Year Walk is a difficult game to describe, both because much of its power comes from its twisting, sinister narrative, and because it's arguably more about the experience and a slow, creepy assault on the senses, than it is about the puzzles it contains. This is a multimedia experiment in the form of a game, but it's effective and affecting rather than arch.

Pros: Slow; creepy; assault on the sense

Cons: Figuring out the game requires a free additional app



Joe Danger

Macworld.co.uk review: bit.ly/WwQdmp ★★★★★

Macworld EDITORS' CHOICE

Hello Games, www.hellogames.org, £1.99

£1.99 is a bargain for a game of this quality. Far from being a console game that's been crudely squeezed into an awkward new frame, this is a genuine labour of love and it shows. More console ports like this please!

Pros: Brilliantly reimagined for touchscreens; beautifully drawn and animated; compulsive gameplay

Cons: Unnecessary micro-transactions despite price



Pangolin

Macworld.co.uk review: bit.ly/Yy1Bvt ★★★★☆

Feedtank, www.feedtank.com, Free

Develop your trampolining skills with Pangolin, a neat, clever little physics puzzle game for iPhone and iPad with bags of character. Just don't expect too much depth: this is a commuter game par excellence. You control a cute scaly mammal, who rolls into a ball when threatened. Propel him to a target within a certain number of shots to win.

Pros: Looks and sounds great; neat, original gameplay mechanic; a bargain; brilliant single-gesture restart feature

Cons: Occasional stutters when tested on iPhone 4



Letterpress

Macworld.co.uk review: bit.ly/UdYk57 ★★★★★

Macworld EDITORS' CHOICE

Atebits, www.atebits.com, Free

We only have a few minor quibbles about Letterpress. The truth is, none of them impact how fun it is, which is to say: lots. Fans of word games won't be disappointed. If you're starting to tire of Words With Friends or just want additional word-focused fun, Letterpress deserves your attention.

Pros: Simple but compelling word game; extremely addictive; lovely look and sounds

Cons: We wish we could chat with an opponent

iOS APPS: VIDEO & PHOTOGRAPHY



iStopMotion for iPad

Macworld.co.uk review: bit.ly/16rYOWB ★★★★☆

Boinx, www.boinx.com, £6.99

This is a fantastic app if you're into stop-motion animation. It's easy to use, and the set of shooting and editing tools are great. Although welcome, the audio feature feels too limiting to be recommended, and you'd be advised to export your film and work on the sound in another app.

Pros: Camera overlay; Navigator that jumps to any part of your movie; timelapse option; ability to use an iPhone, iPod touch as a remote camera; easy to use; free update

Cons: The audio tools feel too basic and their limitations make them of little use



Typic Pro

Macworld.co.uk review: bit.ly/Z7kkvt ★★★★★

Macworld EDITORS' CHOICE

Hi Mom, www.typicapp.com, £1.49

Typic Pro offers a photo-editing tool, with Instagram-like filters that let you add stylish captions to iPhone photos and transform them into design pieces. We'd like to see a wider range of fonts and design elements in the future, though. If you like the look of Typic Pro but want to test it out first, the developers offer a free version, too.

Pros: Free version available; good selection of fonts and design elements, filters, frames, effects and soon; can create high-resolution images to share

Cons: Would like a wider range of design elements



Over HD

Macworld.co.uk review: bit.ly/Vdtp8i ★★★★☆

Potluck, madewithover.com, £1.49

Appealing and creative, Over HD's choice of quality fonts are among the best we've seen. While not the cheapest typography focused app currently available, it makes adding attractive type faces to your photos a speedy and simple option that should leave friends, family and Instagram followers suitably impressed.

Pros: Attractive selection of typefaces; produces good resolution results; simple, intuitive interface; ability to crop images for Instagram

Cons: No ability to change opacity of text; can't easily vary the text size on one image; cheaper alternatives, In App Purchase needed for additional fonts



KitCam

Macworld.co.uk review: bit.ly/YWK6sp ★★★★★

Macworld EDITORS' CHOICE

GhostBird Software, www.ghostbirdsoft.com, £1.49

With a comprehensive range of features and effects wrapped in an intuitive interface, KitCam has set the standard for all photo apps. The ability to endlessly experiment within one app with editable lenses, films and frames, while preserving the original photo or video, brings the power to create and craft to all.

Pros: Great range of tools, lenses and frames; continuous shooting; real-time previews; non-destructive editing; choice of aspect ratios; photo sharing and auto archiving

Cons: In-app purchases don't add much to the available lenses, films and frames; some features are only compatible with an iPhone 5; a few bugs



AfterLight

Macworld.co.uk review: bit.ly/T4DjIM ★★★★★

Macworld EDITORS' CHOICE

Afterglow, afterlight.us, 69p

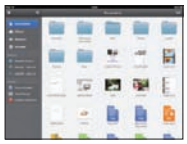
Beautifully considered editable effects, textures, filters and frames makes AfterLight a must-have app for iPhone users. The addition of useful editing tools is a bonus, making it particularly good value at 69p. The promise of new, free Guest Filters should add value to what is already an excellent app.

Pros: Quality, adjustable effects, textures, filters and frames; good basic editing tools; uncluttered user interface; high resolution output; value for money

Cons: Choice of frames currently limited; competing in an overcrowded photo app marketplace

Star Ratings

www.macworld.co.uk/speedmark



Documents by Readdle Macworld.co.uk review: bit.ly/YxZvxx ★★★★☆

Readdle, readdle.com, Free

Documents has been awarded 'Editors' Choice' by Apple in more than 70 countries, which is a fair reflection of the app's quality and usefulness, despite some files not, as yet, being compatible. Readdle's latest offering appears more appealing when you consider, unlike many alternative file management apps, it's free.

Pros: Convenient way of organising and viewing files; attractive user interface; ability to share documents; now universal; free

Cons: Lacks support for some popular file formats; apparent crashes on older Apple mobile devices



Beesy Macworld.co.uk review: bit.ly/YeOZGG ★★★★★ Macworld EDITORS' CHOICE

Bees Apps, www.beesapps.com, £3.99

Beesy isn't the cheapest or simplest iPad note-taking app out there, but it offers value for money with a comprehensive set of business-focused tools. If you're willing to put in the time, then the app, with its automated features, will likely become your first choice for organising your business.

Pros: Fully featured set of tools; excellent integration with native Apple and Microsoft apps; attractive interface; new built-in tutorials; Evernote integration

Cons: Learning curve requires effort despite new tutorials; potentially plenty of data to enter; in-app purchases required for additional features; no iPhone version yet



1Password Macworld.co.uk review: bit.ly/WIBy5I ★★★★★ Macworld EDITORS' CHOICE

Agile Bits, www.agilebits.com, £5.49

Keep your digital life safe with this updated gatekeeper. 1Password is an excellent, secure data manager for every user, regardless of their sophistication. Its execution is practically flawless and a significant improvement over previous releases on all fronts.

Pros: Strong security for passwords and other important data; user-friendly interface; seamless syncing

Cons: Existing customers will have to buy version 4 all over again



FineScanner Macworld.co.uk review: bit.ly/X2DEv9 ★★★★☆

Abbyy, www.abbyy.com, £1.99

FineScanner from Abbyy is a fine app, which has value beyond its business credentials. On the highest quality setting and with a recent device, users can produce impressive results. While it July not yet replace paper, FineScanner is a useful tool for keeping track of and backing up important information.

Pros: Potential to produce excellent photo scans; useful editing tools; ability to create PDF documents and Jpeg images; batch processing

Cons: Not compatible with older iOS devices; Dropbox and Google Docs compatibility currently disabled; quality of scans dependent on light; low Jpeg setting poor



LogMeIn Macworld.co.uk review: bit.ly/V5NiQO ★★★★☆

LogMeIn, secure.logmein.com/uk, Free; Pro version from £8.99 for three months

Despite the less than ideal process of working remotely and the bewildering pricing structure, LogMeIn is still an excellent option for taking remote control over your Mac or PC. Both free and paid versions have attractive and useful features, which on the iPad especially brings your computer closer on your travels.

Pros: Remote access to Mac/PC and apps anywhere in the world; pinch-screen navigation and full on-screen keyboard; simple to set up; impressive range of pro features

Cons: Complicated and confusing pricing for pro features; the smaller the iDevice screen the more fiddly the task; host computer needs to be switched on for access



Rando for iPhone, iPad Macworld.co.uk review: bit.ly/11cA5Fz ★★★★☆

ustwo, www.ustwo.co.uk, Free

Rando is an interesting concept and very much a work in progress that promises much, but is let down by the disappointing quality of many of the images shared, despite a beautiful, tactile user interface. The lack of extras, filters and the like, is both a positive and negative.

Pros: Novel variation on photo sharing; well-designed user interface is an exercise in simplicity; encourages users to participate and send photos to receive

Cons: Photos lack the craft and polish of other photography apps; lack of interaction may deter some users; no filters, lenses, additional frames



WeatherPro for iPad Macworld.co.uk review: bit.ly/14GNQ33 ★★★★☆

MeteoGroup Deutschland GmbH, www.weatherpro.eu, £2.99

We like the fact that WeatherPro made us feel like weather forecasters – we were handed all the information and from that we were able to draw our own forecast. Our main issue is the fact there's no free version. There are many good, free alternatives on the App Store, so this app has a lot of competition.

Pros: The premium version offers 15 day forecasts; lots of graphs and charts to make you feel like Michael Fish

Cons: £2.99 is a high price when so many weather apps are free; you may feel a bit blinded by the science



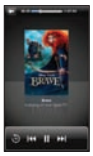
Google Maps for iPhone Macworld.co.uk review: bit.ly/UqEEH9 ★★★★☆

Google, www.google.co.uk, Free

Google Maps is a free app, so there's nothing to stop you from downloading it to use instead of Apple Maps. We've got it on all our iOS devices and are likely to be using it instead of Apple's offering from here on in.

Pros: Map data feels more trustworthy; Map system more familiar; integrates with Google account; turn-by-turn navigation; Street View

Cons: Doesn't have all the info that Android app has; doesn't integrate with Siri, Address Book or other Apple services



Apple Remote for iOS Macworld.co.uk review: bit.ly/WGAwmb ★★★★☆

Apple, www.apple.com/uk, Free

The small changes and improvements in Remote add up to something far more usable than its predecessor. Indeed, the new interface highlights the shortcomings of Apple's iPad Music app.

Pros: Excellent performance; seamless operation with iTunes libraries

Cons: Direct control of Apple TV



BBC iPlayer Radio Macworld.co.uk review: bit.ly/RaihaP ★★★★☆

BBC, www.bbc.co.uk, Free

The BBC has set out to revamp its online audio content in style, and BBC iPlayer Radio for iPhone, iPod touch and iPad is an impressive start. While it lacks some of the features found in the excellent and exhaustive TuneIn Radio Pro app, the BBC's involvement should ensure further enhancements and features.

Pros: National, local, BBC World Service, podcasts and catch-up services available in one app; attractive interface; AirPlay and Bluetooth streaming capabilities; free

Cons: Some content restricted to listeners in the UK; search function needs improving; other radio apps cover more channels; lacks ability to record and listen to content offline

Buyers' Guide

SPEAKERS



Logitech Z553

Macworld.co.uk review: bit.ly/YkqihL ★★★★☆

Logitech, www.logitech.com/en-gb, £109

We like the well-rounded and powerful audio performance of the Logitech Z553 speakers. While the design may not suit all tastes, and they're not designed for portability, the Z553s are well built. Multiple inputs and the control pod make them a great choice of sound system for your home.

Pros: Cheap; impressive sound; multiple inputs

Cons: No built-in Bluetooth connectivity



Razer Ferox

Macworld.co.uk review: bit.ly/12J4iwm ★★★★☆

Razer, www.razerzone.com, £54.99

With a compact and lightweight design the Razer Ferox speakers are very portable, and multiple users can listen easily with the 360-degree soundscape. However, they're overpriced considering the relatively mediocre audio quality: they're only a minor upgrade to most laptop speakers.

Pros: 3W drivers allow for better sound than any laptop speakers; Extremely portable

Cons: Bass and high-end are withdrawn; Minor upgrade to most laptop speakers; Expensive



Bowers & Wilkins Z2

Macworld.co.uk review: bit.ly/15M1LWo ★★★★★

Macworld EDITORS' CHOICE

Bowers & Wilkins, www.bowers-wilkins.co.uk, £329.99

Bowers & Wilkins's £699 A7 remains the priciest AirPlay speaker we've tested, and it sounds exceptional. The company's Z2 costs half as much, but it still sounds very, very good. While the Z2 can't rival the A7's sound, it's far more affordable, is considerably smaller, and it offers a Lightning dock for wired playback and device charging.

Pros: Offers both AirPlay and a Lightning-connector dock; very impressive sound

Cons: Cheap, plasticky remote



Orbitsound M9

Macworld.co.uk review: bit.ly/17eTKIc ★★★★★

Macworld EDITORS' CHOICE

Orbitsound, www.orbitsound.com, £299.95

The M9 is a full £100 more expensive than the T9 (bit.ly/10SlVb9), and it'll be complete overkill if you just want a compact speaker for your bedroom. However, it's great value if you're looking for a powerful, high-quality system that you can use as part of the home-entertainment setup in your living room.

Pros: Powerful 2.1 speaker system with Bluetooth wireless

Cons: Big price jump from the T9; no iPod dock



JBL OnBeat Venue LT

Macworld.co.uk review: bit.ly/XpMW8M ★★★★☆

JBL, uk.jbl.com, £179

We liked the OnBeat Venue LT, but preferred the sound when our iPhone was docked to the speaker rather than via Bluetooth. However, the JBL MusicFlow app (iPhone, bit.ly/ZhgLnx ; iPad, bit.ly/10TaWNa) combines with Bluetooth to give you remote controlled access to all your music from the other side of the room.

Pros: Charges your iPhone/iPad; free app; equaliser options; compact and light

Cons: No remote control

IOS ACCESSORIES



Olloclip for iPhone 5

Macworld.co.uk review: bit.ly/11QaCCf ★★★★☆

Olloclip, www.olloclip.com, £69

Olloclip cunningly combines three lenses into a single dinky snap-on unit, thereby adding functionality to the camera you're likely to have with you at all times. Its daintiness means it's not quite the instant chameleon its marketing team would have you believe, but it certainly extends your iPhone camera's feature set.

Pros: Three lenses in a single unit; fantastically portable; clips securely to iPhone

Cons: Easy to lose; fiddly lens cap and snap-on wide-angle lens



Twelve South BookArc for iPad mini

Macworld.co.uk review: bit.ly/YgyzUV ★★★★☆

Twelve South, www.twelvesouth.com, £34.99

BookArc for iPad mini, is a stylish and solid stand that makes both work and play on your Apple tablet an attractive proposition. If you add a Bluetooth keyboard to the package, Twelve South's stand makes for a pretty decent workstation that brings the iPad closer to the richer functionality and accessibility of a laptop.

Pros: Solid stand; well designed; quality build; landscape/portrait options; ability to dock and charge iPad

Cons: Lacks portability; cheaper options available



Knomo iPad mini Folio

Macworld.co.uk review: bit.ly/12Uel2B ★★★★☆

Knomo, www.knomobags.com/uk, £49

At just under £50, the iPad Mini Folio isn't an impulse buy and it has to be said cheaper options are available. That said, it's a quality case that goes some way towards protecting your investment safely and stylishly, without distracting too much from Apple's svelte design aesthetics.

Pros: Stylish, durable design; quality full-grain leather; can be used as a stand; choice of attractive colours

Cons: Cheaper options available; snug fit may become obsolete with next-gen iPad mini



Just Mobile Gum Plus

Macworld.co.uk review: bit.ly/XrtcBR ★★★★☆

Just Mobile, www.just-mobile.eu, £74.95

Smart, robust and highly portable, Just Mobile's Gum Plus is a convenient power backup unit for iPhone users to carry around on trips. It can even save your iPad in a power emergency, but don't expect miracles.

Pros: Attractive brushed-aluminium look matches Apple products; robust build quality; handy backup power source

Cons: Test unit didn't charge as fast as we had hoped



Blue Microphone Spark Digital

Macworld.co.uk review: bit.ly/YltlX6 ★★★★☆

Blue Microphones, bluemic.com, £179

The Spark Digital is a great microphone for use with either MacBook or iOS device and is portable to boot. This convenience doesn't come cheap, but if you need to record straight to hard disk on the move, the dual inputs and clear recordings may easily make it worthwhile.

Pros: Dual USB and iOS connectivity; compact design; quality audio recordings

Cons: Heavy; expensive; no native app; iPhone 5 and latest iPads need separate adapter

Star Ratings

www.macworld.co.uk/speedmark

IN-EAR HEADPHONES



Jabra Vox Macworld.co.uk review: bit.ly/11hUVlo ★★★☆☆

Jabra, www.jabra.com, £79.99

The Jabra Vox in-ear headphones look great and are conveniently portable and comfortable to wear, but at this price we'd expect stronger audio. We're also concerned about the headphones falling out of our ears during exercise, and they seem a little fragile.

Pros: Smart and cool-looking; comfortable to wear; light and portable

Cons: Unremarkable sound quality, particularly at this price; precarious security of fit; don't seem very robust



Nocs NS600 Crush Macworld.co.uk review: bit.ly/Tk3mH1 ★★★★☆

Nocs, www.nocs.se, £149

If you're into dance and electronic music, then these headphones deliver exceptional quality. They're not cheap though, and if you have a wider taste in music you should probably go for something a little more accurate.

Pros: Powerful bass; stylish design; Kevlar-coated wire; great for dance fans

Cons: Mid-range isn't so hot for traditional rock music



Plantronics Backbeat 903+ Macworld.co.uk review: bit.ly/AqiKND ★★★★☆

Plantronics, www.plantronics.com/uk, £50

It can be a bit tricky getting the darn things hooked over your ears, but the light, rugged design of the Backbeats make them a good choice when you're exercising at the gym or out running in the park. The audio quality is also very good, considering the current low price.

Pros: Affordable; lightweight; good sound quality

Cons: Can be fiddly hooking them over your ears; the maximum volume level isn't very high



a-Jays One Plus Macworld.co.uk review: bit.ly/y3rVIq ★★★★☆

Jays, www.jays.se, £40

The a-Jays One Plus headphones represent good value considering the sound quality and functionality they provide. They have a single button control piece and microphone mounted on the fettuccine-like cord, and for Android users, there's a dedicated app.

Pros: Brilliant sound; good noise isolation; neat design

Cons: Dedicated app is Android; quite heavy; cable magnifies bumps



Muzx Ultra mXx606 Macworld.co.uk review: bit.ly/H3yCqt ★★★★★ Macworld EDITORS' CHOICE

Altec Lansing, www.alteclansing.com, £80

These in-ears have a smart-looking remote on the cable and excellent overall sound quality. The sound is rich and warm, with good breadth across the spectrum; the bass feels punchy without overshadowing any of the upper notes.

Pros: Interesting designs; fantastic sound quality across a wide spectrum of musical styles

Cons: Cable seemed slightly weaker than the one supplied with the Phonak earphones

OVER-EAR HEADPHONES



AKG K67 Tiësto Macworld.co.uk review: bit.ly/12UmfZS ★★★★☆

AKG, uk.akg.com, £99

There's a strong fashion element to the K67, with their chunky earpieces and celebrity-DJ branding. However, they do provide very good sound quality for dance, rock and pop music, and are well worth considering if you're looking for a portable set of headphones that you can wear outdoors or carry around with you.

Pros: Strong bass sound; folds flat for travelling

Cons: Expensive, chunky on-ear design may not suit everyone



Parrot Zik Macworld.co.uk review: bit.ly/SouBB5 ★★★★☆

Parrot, www.parrot.com/uk, £349.99

The high price and noise-cancellation features mean that these Zik headphones are primarily aimed at well-heeled executives who travel a lot. You'll certainly enjoy the sound quality as you recline in the first-class cabin – though the battery July not last all the way across the Atlantic.

Pros: Impressive sound quality; noise-cancellation option; useful iOS app

Cons: Expensive; battery life could be better



Shure SRH440 Macworld.co.uk review: bit.ly/H3GSuu ★★★★★ Macworld EDITORS' CHOICE

Shure, www.shure.co.uk, £109.99

With their studio styling and robust construction, the Shure SRH440s scream "home recording" rather than "plug me into you iPod". Still, the sound's the thing, and they sound absolutely superb. They're loud with very crisp top end and clear mids.

Pros: Balanced output with strong bass; industrial good looks; suitable for studio work

Cons: Not very portable



Sennheiser RS170 Macworld.co.uk review: bit.ly/A58Zfk ★★★★★ Macworld EDITORS' CHOICE

Sennheiser, www.sennheiser.co.uk, £179

You won't be carrying Sennheiser's RS 170 wireless headphones around with you when you're travelling, but they're an excellent choice when you want to sit at home and wallow in your favourite tunes.

Pros: Excellent audio quality; long-range wireless transmitter

Cons: Expensive; bulky Kleer transmitter



MeElectronics Air-Fi AF32 Macworld.co.uk review: bit.ly/Lj9scy ★★★★☆

MeElectronics, www.meelec.com, £70

For a set of Bluetooth headphones in this price range, the MeElectronics Air-Fi AF32 on-ear stereo Bluetooth headphones are comfortable and offer good sound quality. And you can't beat the feature set or battery life. Leaving aside minor quibbles about hot ears and less-than-perfect audio, we really like these.

Pros: Solid sound quality; Comfortable to wear; Impressive battery life

Cons: A bit bulky; can be hot to wear

Buyers' Guide

SLR CAMERAS



Canon EOS 6D

Macworld.co.uk review: bit.ly/ZXAA3x ★★★★☆

Canon, www.canon.co.uk, £1799.99

For anyone who has thought about the second-hand route to afford a full-frame DSLR like an EOS 5D Mark III or 1DX – or who wasn't keen on the bulk usually associated with a pro model – this offers an alternative that won't feel alien. It's a bridge to more professional photography for those who wouldn't consider themselves professionals.

Pros: Canon's cheapest full frame sensor DSLR; solid feel build; manageable handling; on-board wireless transfer; ability to control camera remotely via iPad; GPS image tagging

Cons: Size and bulk will still mark you out as a professional, so not the best option for candid street photography; expensive if you won't feel the benefit of that full frame sensor



Pentax K-5 II

Macworld.co.uk review: bit.ly/17t7JJP ★★★★☆

Pentax, www.pentax.co.uk, £799 (body only)

Pentax spoilt us by providing a wide 18-270mm zoom, rather than the 18-55mm lens bundled with body for £869.99. The sensor and lens maintain detail right into the corners at wide angle, and the telephoto reach provides a range of framing options. Even fussy photo enthusiasts might consider this as a viable alternative to the 'big two'.

Pros: Solid construction; 77 weather resistant seals; optical viewfinder with 100% field of view; Live View mode; Full HD video shooting; long battery life

Cons: An angle adjustable LCD screen at the rear would broaden framing options further; manual focusing required if altering framing during video recording



Nikon D5200

Macworld.co.uk review: bit.ly/XURVvh ★★★★☆

Nikon, www.nikon.co.uk, £700

The Nikon D5200 is ideal for anyone wanting their first good-quality digital SLR or wanting to upgrade from their current mid-range DSLR. It's well-built, comfortable and easy to use, with good picture quality and provides good value for money. The only real downside is a lack of absolute sharpness in some images.

Pros: Excellent autofocus

Cons: Lack of absolute sharpness in some images



Canon EOS 650D

Macworld.co.uk review: bit.ly/X8zaqS ★★★★☆

Canon, www.canon.co.uk, £1,019.99

If you're a keen amateur looking for a jack-of-all-trades digital SLR that will last you for years, then this Canon should shoot to the top of your list. Setting this one apart from the competition is the compositional flexibility offered by the tilt and swivel 3in LCD touchscreen at the rear.

Pros: High quality rugged feel; tilting touchscreen LCD; high stills and video resolution; razor-sharp images with image stabilised 18-135mm lens

Cons: Pricey for beginners this is aimed at if going for the body and lens combo we had on test; no anti-shake built into the camera body itself



Sony Alpha A580

Macworld.co.uk review: bit.ly/I0FX8F ★★★★★

Macworld EDITORS' CHOICE

Sony, www.sony.co.uk, £569 (body only)d or £649 (including 18-55 lens)

The A580 has many of the same core features as the smaller A55 for £100 less – including a top whack light sensitivity setting of ISO 12,800, though shooting video isn't quite as fluid or intuitive.

Pros: A cheaper alternative to the A55 with identical resolution and many of the same core technologies

Cons: Chunky build

CSC CAMERAS



Pentax Q10

Macworld.co.uk review: bit.ly/12UtSjb ★★★☆☆

Pentax, www.pentax.co.uk, £379.99

While some will be scratching their heads as to the value of twinning removable lenses with a sensor no larger than a cheap snapper, the inexpensive asking price, toy-like proportions and classic styling here will find converts among the curious.

Pros: Compact dimensions and a fairly solid construction in spite of them; classic retro-styling; broad range of built-in digital effects make this a fun camera to use

Cons: Sensor is no larger than that of a £100-£200 snapshot and unless deploying digital filters, the image quality straight is little better than that of a snapshot



Nikon 1 J3

Macworld.co.uk review: bit.ly/13Gey8w ★★★☆☆

Nikon, www.nikon.co.uk, from £579.99

The J3 is one of the smallest interchangeable lens cameras around. Its sleek, minimalist design and lightweight, yet solid-feel aluminium chassis doesn't hurt either. While this is a camera that purports to be all about convenience, it's at its most convenient if all you really want to do is point and shoot.

Pros: Fun and approachable; lightweight metal build; optional adaptor allows for usage with 60+ Nikon lenses

Cons: Doesn't offer a significant step on from previous iterations in terms of feature set; image quality falls short of rivals with larger sensors but not wildly differing price tags



Sony NEX-6

Macworld.co.uk review: bit.ly/ZtLApB ★★★★☆

Sony, www.sony.co.uk, £829

That it costs as much as a semi-professional digital SLR when you factor in the lens July give some pause for thought, but if it's compactness, convenience and – despite this – robustness you're after in a CSC, the NEX-6 is up there near the top of the proverbial tree.

Pros: Compact yet with a rock solid construction; APS-C sensor is larger than that found in most CSC's; touchscreen control; tilting high resolution backscreen

Cons: Bland design; costs as much as a good DSLR, which would offer better picture quality; some will prefer to twin this with a manual zoom



Canon EOS M

Macworld.co.uk review: bit.ly/ZaGSAA ★★★★☆

Canon, www.canon.co.uk, £769.99 (including 18-55mm image stabilised zoom)

Though the Canon's CSC debut features a large APS-C sized sensor for better image quality than a typical pocket snapper, but its design owes more to a PowerShot than a DSLR. Nevertheless, the EOS M provides the ability to use Canon's DSLR range's 70+ EF lens line-up, albeit via an optional adaptor.

Pros: Smaller more portable body than many rivals; compatible with range of accessories; combination of sensor and Canon's optical excellence delivers sharp images

Cons: Have to buy £130 adaptor for access to range of Canon EF lenses; so-so battery performance; lacks a decent handgrip; no on-board Wi-Fi; no optical or electronic viewfinder



Fujifilm X-Pro 1

Macworld.co.uk review: bit.ly/STi8Jk ★★★★★

Macworld EDITORS' CHOICE

Fujifilm, www.fujifilm.eu/uk, £1,399 (body only)

Rather than aim for a mass-market camera, Fujifilm has gone niche for its first CSC in the 16.3 effective megapixel X-Pro 1. With a DSLR-sized CMOS sensor, it's pitched at enthusiasts and professionals, and its nearest competition includes range-topping rivals in the Olympus OM-D and Sony NEX-7.

Pros: Stunningly high build quality, plus we love the extremely high-resolution LCD and EVF/optical viewfinder

Cons: The priciest Compact System Camera (CSC) out there; fixed rear LCD (not angle adjustable); EVF provides more accurate view than optical finder

Star Ratings

www.macworld.co.uk/speedmark

COMPACT CAMERAS



Sony Cyber-shot DMC-RX100 Macworld.co.uk review: bit.ly/12fk4RY ★★★★★ Macworld EDITORS' CHOICE

Sony, www.sony.co.uk, £549

The RX100 is as good as premium compacts get – especially with current street prices taking £100 off the manufacturer's asking price. It's a monster when it comes to features, plus delivers near DSLR-like pictures with a similarly hefty 'bite'.

Pros: Palm-sized compact; reassuringly solid; larger than average sensor and resolution given its proportions; bright/fast lens; ability to control functions via twist of the lens ring

Cons: Pricey for a compact on which the lens cannot be swapped; tiny rear plate buttons require fingernail precision



Samsung EX2F Macworld.co.uk review: bit.ly/VUfkdp ★★★★☆

Samsung, www.samsung.com/uk, £429

Samsung's top-end pocket compact is aimed at those who want better than the average snapper, but not interchangeable lenses. Its photos resemble those from the very good snapshot camera that it is, rather than cheating users into thinking they've just shot something with a digital SLR.

Pros: Bright lens for DSLR-style shallow depth of field effects and low light shooting; tilt and swivel back screen; built-to-last metal construction

Cons: Costs almost as much as a starter DSLR or compact system camera, which arguably would offer even more creative scope in the long run despite the extra bulk



Nikon Coolpix P7700 Macworld.co.uk review: bit.ly/Za3aTL ★★★★☆

Nikon, www.nikon.co.uk £499.99

Nikon's Coolpix P7700 is a premium compact that shoehorns in many features found on digital SLRs. Creative flexibility at your fingertips is what's provided here, though potential purchasers will want to weigh that up against its extra bulk and sensor that, while bigger than most compacts, is still small compared to DSLRS.

Pros: Broader focal range than direct rivals; solid build; comprehensive feature set with dials and wheels falling under the fingertips; angle adjustable LCD screen

Cons: Physically bulkier than competitors; doesn't have an optical viewfinder



Panasonic Lumix DMC-LX7 Macworld.co.uk review: bit.ly/X2uteJ ★★★★☆

Panasonic, www.panasonic.co.uk, £449.99

As a point-and-shoot camera for those wanting to upgrade to something better or a smaller back up for someone owning a G-series compact, the LX7 cuts the proverbial mustard but, despite being as consistently competent and reliable as one might hope, it doesn't stand above the Samsung EX2F or the Sony RX100.

Pros: Relatively lightweight and compact dimensions for a metal build enthusiasts' camera; bright aperture lens; built-in visual effects; hotshoe and accessory port

Cons: Fixed screen LCD; priced not a great deal cheaper than one of Panasonic's interchangeable lens G-series compacts system cameras



Fujifilm XF1 Macworld.co.uk review: bit.ly/YWRsbq ★★★★☆

Fujifilm, www.fujifilm.eu/uk, £399.99

The XF1 is the latest in Fujifilm's retro-styled X series of premium build compacts. This is a snapshot camera that's a cut above the rest, so should draw attention from snappers looking to upgrade, as well as owners of bulkier models seeking a more pocket-friendly back up.

Pros: Stylish retro appearance; lightweight aluminium build; fast/bright f/1.4 maximum aperture lens unusually boasts manual operation; high ISO 12800 light sensitivity; fair pricing

Cons: Awkward means of activating the camera via manually extending the lens

CAMCORDERS



Sony VG20 Macworld.co.uk review: bit.ly/JytLSr ★★★★★ Macworld EDITORS' CHOICE

Sony, www.sony.co.uk,£1,500

With the amount of manual controls on offer, as well as the inputs and versatility of the extra lenses, the Sony VG20 is perfect for the advancing amateur or aspiring independent filmmaker.

Pros: Superb image quality, menu controls, removable lenses

Cons: Confusing manual controls



Canon XA10 Macworld.co.uk review: bit.ly/LE9tT0 ★★★★★ Macworld EDITORS' CHOICE

Canon, www.canon.co.uk, £1,600

The Canon XA10 is a camcorder with few flaws. The zoom is impressively versatile and controls easy to access, with only the small viewfinder a significant negative, dwarfed by the likes of the huge storage capacity and XLR inputs.

Pros: Superb image quality, portable size, huge storage capacity

Cons: Small viewfinder



Sony HDR-CX130E Macworld.co.uk review: bit.ly/HXICAD ★★★★☆

Sony, www.sony.co.uk, £399

Recording to removable Memory Stick or SD flash, the CX130's 16GB capacity is expandable and relatively future-proofed. Available in red or black, this is a good mid-price option, even if detail isn't as sharp.

Pros: Large and obvious buttons; decent feature set for a reasonable price; choice of SD or Memory Stick storage; bright lights

Cons: Plasticky construction, though many will appreciate the larger controls; detail could be sharper



Panasonic SD90 Macworld.co.uk review: bit.ly/HqFrQ5 ★★★★★ Macworld EDITORS' CHOICE

Panasonic, www.panasonic.co.uk, £498.99

Here is a device comparable with the semi-enthusiast Canon in terms of quality, yet boasting a smaller form factor more in common with an entry-level camcorder.

Pros: Well built with substantial feel; good ergonomics too with intuitive touch-screen control; bright lens plus decent lens reach and feature set

Cons: Towards the top end of our price scale; plasticky feel accentuated by high gloss finish



JVC Everio GZ-HM650 Macworld.co.uk review: bit.ly/Hewsla ★★★★☆

JVC, www.jvc.co.uk, £349.99

Aimed at families, the JVC features common digital camera gizmos such as subject-recognising intelligent auto mode, face recognition and smile-shot modes, while time lapse recording and the ability to add an animation effect to footage provides a degree of creative scope.

Pros: Good value compared with similarly featured competitors; large 8GB internal memory and optional SD card slot; lightweight; bright lens

Cons: Low noise of the zoom and operational adjustments picked up when filming; lens cover has to be manually opened; small touch-screen icons

Buyers' Guide

MONITORS



d2757Ph 3D monitor Macworld.co.uk review: bit.ly/15seNYu ★★★★☆

AOC, www.aoc-europe.com/en, £250

The big question here is whether you want the 3D effect. If you do, then this is a compelling way of creating more depth to images and making more of an impact. The huge 27in screen space is generally excellent, and the price is also very affordable, making this a real alternative to a standard 2D only display.

Pros: Looks stylish, has 3D mode and can convert standard 2D to 3D; IPS display for great viewing angles in 2D; fine colours; good brightness range.

Cons: Light leak and mediocre build quality; 3D viewing angles limited; only HDMI or poor D-Sub interfaces; stand has little flexibility; only 1,920 x 1,080 on a 27in display



NEC MultiSync EA244WMi Macworld.co.uk review: bit.ly/XYpMBb ★★★★☆

NEC Display Solutions, www.nec-display-solutions.com, £306

Built to last, with lots of interfaces and flexible movement, and backed up by a very good quality display with consistent colour and no appreciable light leak. The extra screen space from the 16:10 ratio is welcome, and it isn't an eye-sore either. Suitable for a wide range of environments, it's certainly worth considering.

Pros: Great build quality; lots of interfaces; decent on-screen menu; good technical specs; lots of highlight detail; human and ambient sensors; can work in bright environments

Cons: Not really that stylish; some variation in tone when viewing; menu controls not placed in the best location; Eco saving mode makes the display murky



i2757FH LED Macworld.co.uk review: bit.ly/VfQR4P ★★★★★

Macworld EDITORS' CHOICE

AOC, www.aoc-europe.com/en, £220

At this price, you'd expect that quite a few corners would be cut, but you'd be wrong. The frame edge feels flimsy, but the only flaw is some light leak around the edge. That won't impact every day use where the crisp display, vibrant colours and overall high quality make this that rare find: a bargain, large-screen, IPS panel.

Pros: Nice styling; incredibly thin; sharp, crisp text; very cheap; twin-HDMI ports; good response time; high dynamic contrast; built-in speakers

Cons: Some light leak along the edge; limited interfaces; stand doesn't swivel; build quality is slightly flimsy



SyncMaster S27B970 Macworld.co.uk review: bit.ly/SOkw2M ★★★★☆

Samsung, www.samsung.com/uk, £800

The SyncMaster S27B970's display isn't quite as good a quality as the price tag demands. There can be some reflections, but the consistency of the display is admirable. The styling is rich consumer or plush-studio orientated, and it will do a great job in either of those environments, if you can afford it.

Pros: Superb styling; brushed metal stand; tidy use of wires; good refresh rate; high resolution; lots of interfaces; good colour consistency; built-in 7W speakers; PLS screen

Cons: Some light leak; expensive; glossy screen hinders viewing on bright days; average brightness and contrast



324i Macworld.co.uk review: bit.ly/HeN9yr ★★★★★

Macworld EDITORS' CHOICE

LaCie, www.lacie.com/uk, £1,049; £1,349 with Blue Eye Pro calibrator

This is a monitor we'd have no qualms about owning and using every single day. Robust and packed with features, it stands up well to other hardware in its class. However, if you do decide to buy one, we'd recommend choosing the version with the Blue Eye Pro calibrator bundled.

Pros: Latest P-IPS technology offers 1.07 billion colours; easy setup; lots of connectivity options; 176 degree viewing angle; anti-glare coating

Cons: Connectors in an awkward spot in landscape mode

CREATIVE HARDWARE

Macworld EDITORS' CHOICE



Cintiq 24HD Macworld.co.uk review: bit.ly/HeOzfG ★★★★★

Wacom, www.wacom.eu, £1,999

For digital artists, designers and animation pros there is no substitute. As an upgrade, it doesn't represent a quantum leap over 2010's 21UX, but taken alone it represents a valuable investment for creatives looking to squeeze more out of their workday.

Pros: Huge working area; improved tablet buttons; supports Mini DisplayPort, VGA, DVI-I, DVI-A; ergonomic and widely adjustable; VESA mountable

Cons: Not at all portable; requires two people to move it; difficult to accommodate in tight workspaces or in a two-monitor setup



Inkling Macworld.co.uk review: bit.ly/HUiDgo ★★★★★

Macworld EDITORS' CHOICE

Wacom, www.wacom.eu, £149.99

The highest praise we can give is this; we didn't want to send the Inkling back. It has clear, professional applications in design and the arts but, more importantly, it's load of fun. If you're in the market for a budget graphics tablet, we suggest you give the Inkling a look first.

Pros: Use a real pen to draw with; upload in bitmap or vector format to supported programs

Cons: Early users have reported layer shifting issues and occasional export glitches



Spyder4Elite Macworld.co.uk review: bit.ly/HcYQdf ★★★★☆

Datacolor, www.datacolor.com, £179.99

Colour profiling is an onerous tasks that's pretty much an essential requirement for designers, photographers and anyone working with images or video. The Spyder4Elite is easy to use – though there's advanced options for those that need them – and produces great results.

Pros: Easy to use; supports Cineon, NTSC, PAL and HDTV standards; can also calibrate iPhone, iPad and projector; colour gamut graph; advanced tests

Cons: Ambient light test not well explained; sometimes awkward to navigate back to previous settings; some advanced tests difficult to find



Intuos4 S Macworld.co.uk review: bit.ly/yZdJcn ★★★★★

Macworld EDITORS' CHOICE

Wacom, www.wacom.eu, £200

The Intuos4 S sits between the enthusiast Bamboos and the high-end Cintiqs and produces excellent results. Wacom again sets the standard other manufacturers must hope to achieve.

Pros: Precision control; well designed; comfortable pen with 2,048 levels pen pressure; extra nib

Cons: Pricey compared to Wacom's Bamboo range and rivals; small footprint July deter some



Intuos5 Touch Macworld.co.uk review: bit.ly/KDPw32 ★★★★★

Macworld EDITORS' CHOICE

Wacom, www.wacom.eu, £199.99

The Intuos5 feels like Wacom's first major attempt to recreate the experience of working with canvas. We can't wait to see how Wacom takes this technology forward.

Pros: Touch and pen interface; ExpressKeys HUD is useful and unintrusive; all tablet sizes feature wireless option; new design

Cons No Bluetooth model

Star Ratings

www.macworld.co.uk/speedmark



Rain Design mStand 360 Macworld.co.uk review: bit.ly/18epScA ★★★★★ Macworld EDITORS' CHOICE

Rain Design, www.raindesigninc.com, £60

The Rain Design mStand 360 is a simple product, superbly executed, and potentially invaluable to anyone that regularly uses their MacBook – or any other laptop – with outboard peripherals on the desk. This inspired piece of aluminium deserves gold.

Pros: Simple product; superbly executed; potentially Invaluable

Cons: None



Just Mobile AluBase Macworld.co.uk review: bit.ly/ZXkPtw ★★★★★ Macworld EDITORS' CHOICE

Just Mobile, www.just-mobile.eu, £39.95

The AluBase is a simple Apple-esque design that complements your MacBook, and while it's footprint is small, you can be confident that your MacBook won't tip over. If you are looking for a solution that will allow you to close your MacBook and tidy it away while using an external monitor, it's a great solution.

Pros: Neat media centre solution; space saving; Apple-esque styling

Cons: Your Mac may overheat if you are using processor intensive applications, so keep an eye on it; you will need to plug the MacBook in and a mouse is essential



Devolo dLAN 500 AV Wireless+ Starter Kit Macworld.co.uk review: bit.ly/10x6vbY ★★★★☆

Devolo, www.devolo.co.uk, £130

This simple and efficient gadget will make your home network faster and more stable in about five minutes. Powerline offers Ethernet-like internet access anywhere there's a power socket, and wireless adaptors like this product create powerful new Wi-Fi hotspots around the home.

Pros: Fast, stable home networking; simple installation; pass-through power socket

Cons: Not as fast as advertised (but none are)



Fitbit One Macworld.co.uk review: bit.ly/16w9dIR ★★★★☆

Fitbit, www.fitbit.com, £80

The Fitbit One costs £80, and while that may sound a lot, it's considerably cheaper than competing devices such as Nike's FuelBand, which costs £130. Overall, if you're looking for something to motivate you to exercise more and accurately measure your steps, the Fitbit One is a reasonably-priced gadget with lots of functions.

Pros: Tiny; lots of features; shows how many floors climbed; tracks sleep; built-in alarm; automatically syncs via Bluetooth; motivates users to exercise more

Cons: Inconvenient and easy to lose proprietary USB cable; size of the device means its easy to leave at home in pocket or on other item of clothing



Sony HMZ-T2 Personal 3D Viewer Macworld.co.uk review: bit.ly/12gB7QD ★★★★☆

Sony, www.sony.co.uk, £999

Sony's HMZ-T2 headset is one of the coolest consumer devices we've ever tried. It's a home cinema system that you wear on your head. We can't wait to see what it evolves into given three or four more years of technological advance.

Pros: Standard HD 'virtual' screen; 3D ready; six channels of surround sound

Cons: Lengthy adjustment process; becomes uncomfortable after a time



Linksys RE1000 Macworld.co.uk review: bit.ly/11QpVLe ★★★★☆

Linksys, www.linksys.com, £50

The Linksys RE1000 is a reasonably priced and very easy to use wireless range extender that can expand the range of your wireless network. The strength of the device is really its simplicity – it's quick to set up and provides a rock solid connection.

Pros: Reasonably priced; very easy to use

Cons: Usefulness may depend upon setup



Blackmagic Design Intensity Shuttle Macworld.co.uk review: bit.ly/YgxkoM ★★★★☆

Blackmagic Design, www.blackmagicdesign.com, £190.80

This is a compact, well-specified solution for delivering professional video quality from lower-end equipment. Adobe video products enjoy the most integrated workflow, though using Media Express for ingest isn't bad. Ensuring all settings in the Blackmagic Control Panel and editing applications match can be a pain, though.

Pros: Allows capture of uncompressed video directly from camera or in post-production friendly ProRes formats; range of ports; Thunderbolt, good integration with Adobe

Cons: No Thunderbolt Cable supplied; setup is unforgiving for unmatched settings in Blackmagic Control Panel and Media Express/NLEs; ports can get hot



Humax YouView DTR-1000 Macworld.co.uk review: bit.ly/VFq2IP ★★★★☆

Humax, www.humaxdigital.com/uk, from £249.99

£250 is fairly expensive compared to most ordinary Freeview boxes, but BT and TalkTalk are currently offering it to their broadband customers free. We think YouView could become a popular option for people who want to upgrade from the basic Freeview services without paying for a Sky subscription.

Pros: Seven-day catch-up services from the UK's main broadcasters

Cons: Expensive; no Netflix or LoveFilm; no Wi-Fi



Roku 2 XS Macworld.co.uk review: bit.ly/Yy4Zql ★★★★☆

Roku, www.roku.com, £99

The graphical interface July not be as slick as that of the Apple TV, and the need to provide credit card details before you watch anything is annoying. However, the Roku 2 XS works well and provides a slightly wider range of services than the Apple TV.

Pros: Affordable media player with access to BBC iPlayer and Sky NOW

Cons: No LoveFilm or other UK broadcasters; requires credit card details during installation



WD TV Live Hub Macworld.co.uk review: bit.ly/YXLerq ★★★★☆

Western Digital, www.wdc.com/en, £79.99

It'll be interesting to see what new features – if any – Western Digital can add to the forthcoming WD TV Play, but even in its current form, the WD TV Live is one of the few media players that can give the Apple TV any real competition.

Pros: Affordable, versatile media player, supports BBC iPlayer and Netflix

Cons: No LoveFilm, Sky or other UK broadcasters

Buyers' Guide

LASER PRINTERS



WorkCentre 3325 Macworld.co.uk review: bit.ly/16R73vx ★★★★☆

Xerox, www.xerox.co.uk, £330

The Xerox WorkCentre 3325 is a fast, monochrome laser printer, with added scan and fax capabilities to make it a multifunction device. It won't cost a fortune to run and has good – but not exceptional – print quality.

Pros: Fast; full featured; good print quality; 2GB of on-board storage

Cons: Print quality not exceptional; basic input tray only fits A4 sheets; bypass tray feels a little rickety



i-Sensys MF4730 Macworld.co.uk review: bit.ly/YWNlus ★★★★☆

Canon, www.canon.co.uk, £120

If you need a colour printer for photos or presentation graphics, then an inkjet printer may still be the better option. However, people who simply need an affordable mono printer for their business documents will find that the MF4730 provides good quality and performance, along with very reasonable running costs.

Pros: Fast, affordable laser printer with low running costs

Cons: No network connectivity or duplex printing



LaserJet Pro 400 M401dw Macworld.co.uk review: bit.ly/RRaqvG ★★★★☆

HP, www.hp.com/uk, £341

There's nothing fancy about the M401dw, but it's very fast and affordable, with modest running costs as well. It's a good follow-up to the successful P2055, and will make an excellent workhorse printer for any small business.

Pros: Fast, affordable laser printer with good network connectivity and AirPrint support

Cons: Bulky, single-function printer with no scanner



ES9410 Macworld.co.uk review: bit.ly/HUK9Ig ★★★★☆

OKI, www.oki.co.uk, £7,198

OKI's ES9410 is for designers with demanding needs. While it alone won't turn your studio into a print shop, for many it'll provide both an excellent proofer and a handy moneysaver.

Pros: Highest-grade output, great for high yields, simple to print to and run

Cons: Very expensive, fiddly install



C3900DN Macworld.co.uk review: bit.ly/Hga9Ck ★★★★☆

Epson, www.epson.co.uk, £537

Epson's standard one-year warranty can be extended to three, and you'll want to keep this colour laser going for as long as possible, given its low running costs. You'll spend around 1.7p for a page of text and 7.4p for colour.

Pros: Good performance; strong set of specifications including a fast gigabit Ethernet interface; low running costs; suitable for heavy use

Cons: Slow to print in PDF test; space needed to allow access to input trays

INKJET PRINTERS



OfficeJet X551dw Macworld.co.uk review: bit.ly/11RXRpl ★★★★☆

HP, www.hp.com/uk, £480

It doesn't quite live up to HP's performance claims, but the X551dw is certainly the fastest inkjet printer we've seen so far. Its speed, quality and competitive running costs make it a good option for businesses that require a versatile, high-volume printer, but can't perhaps afford a more expensive colour laser.

Pros: High-speed; excellent quality; competitive running costs

Cons: Big, bulky and heavy; colour printing much slower than mono



Pixma MX925 Macworld.co.uk review: bit.ly/YyTyyZ ★★★★☆

Canon, www.canon.co.uk, £179

The sheer bulk of the MX925 might be a problem for smaller offices, but it certainly provides good value for money. It performs well for a printer in this price bracket and provides a wide range of useful features that will appeal to both home users and small businesses on a tight budget.

Pros: Versatile four-in-one multifunction printer; good print quality; AirPrint support

Cons: Bulky; running costs not as low as Canon suggests



Photosmart 5520 e-All-in-One Macworld.co.uk review: bit.ly/ZhtgPL ★★★★☆

HP, www.hp.com/uk, £69

A nice touchscreen interface and a low price tag helps make the HP Photosmart 5520 e-All-in-One a contender, and its low running costs won't hurt either. Its performance is solid rather than stunning, though.

Pros: Nice touchscreen interface; impressive price tag; low running costs; memory card slot

Cons: Some design flaws; no additional photo tray; no PictBridge port; depth of detail isn't strong; photo paper results moderately bubbly



MFC-J4510DW Macworld.co.uk review: bit.ly/11m0Esy ★★★★☆

Brother, www.brother.co.uk, £130

Not your usual A4 inkjet, the MFC-J4510DWW is a compact multi-function device that can also print to A3 paper – sideways. If you're primarily needing a graphics printer, you'll find better models. But text output is good, and the features set substantial. Throw in the added A3 convenience, and this printer has an awful lot going for it.

Pros: Attractive design; prints on A3; reasonably straightforward to set up; extensive connectivity options; cloud computing credentials

Cons: Paper needs to be replaced often; black a little faint at fastest mode; colour faint and watered down in all modes



Expression Premium XP-800 Macworld.co.uk review: bit.ly/T4ZcWD ★★★★☆

Epson, www.epson.co.uk, £199

The Epson Expression Premium XP-800 is a very competent, full-featured inkjet multifunction printer. It can copy, fax, scan and print on specially coated optical media as well as paper. Print quality is exceptional. It will handle your small and home office chores with aplomb. Unfortunately, ink costs are on the high side.

Pros: Nice output quality; duplex printing and scanning; CD/DVD printing

Cons: Inks are somewhat pricey; user guide is online only

Star Ratings

www.macworld.co.uk/speedmark

PROFESSIONAL STORAGE



QNAP TurboNAS TS-269L Macworld.co.uk review: bit.ly/114BI6T ★★★★★ Macworld EDITORS' CHOICE

QNAP, www.qnap.com/en, £324.97

We've tested several NAS drives lately and the TurboNAS TS-269L competes well in terms of build, features and specs. It's not a budget choice though, retailing at an enclosure-only price that some rivals beat with fully-populated models. If you're a small business or serious home media enthusiast, it's worth the extra.

Pros: Superior build quality; supports 3.5 or 2.5in drives; HD streaming from the box

Cons: A little more expensive than similarly specified rivals



LaCie 2Big NAS Macworld.co.uk review: bit.ly/17tdxCT ★★★★☆

LaCie, www.lacie.com/uk, £345

The 2Big NAS is essentially a small computer, so performance is affected by factors like the onboard CPU and RAM – it has a 2GHz ARM processor and 512MB of onboard RAM. The specs say that's enough to deliver speeds of 100Mbps, but that's just data transfer. Read and write speeds will depend on a variety of factors.

Pros: Solid build and stylish looks; fast CPU with low energy requirements

Cons: No USB 3.0 port



Netgear ReadyNAS Duo V2 Macworld.co.uk review: bit.ly/10Ot5IJ ★★★★☆

Netgear, www.netgear.co.uk, £386.20

Netgear's ReadyNAS Duo V2 compares similarly in performance terms with Synology's DiskStation. But beats it on the build front. Macho metal grills make this an industrial-looking construction. This is the kind of NAS you'd buy if you lived in a converted loft with exposed pipes and weathered beams.

Pros: Chunky, industrial lines; user friendly OS

Cons: Lower CPU spec



Silver Store 2-Drive NAS Macworld.co.uk review: bit.ly/HCHAQ3 ★★★★★ Macworld EDITORS' CHOICE

Freecom, www.freecom.com, from £279

While it's not the fastest or cheapest NAS drive, the Silver Store strikes a good balance between versatile features and ease of use, and is an excellent choice for Mac-based small businesses. It is available in 2TB, 4TB and 6TB models.

Pros: Versatile NAS drive with RAID and remote access features; USB port supports USB 3.0

Cons: Expensive; poor documentation



DiskStation DS213 Macworld.co.uk review: bit.ly/13GboS6 ★★★★☆

Synology, www.synology.com, £494.05

If there's a flaw, it's the DiskStation's case. Beautifully designed as it is, it's plastic and – though solid and robust for the most part – it feels thin in places. The hum of twin drives conducts noisily through the unit. Overall, it's a very powerful and holistically well-designed piece of kit.

Pros: SD and USB 3.0 support

Cons: Enclosure feels thin in places

CONSUMER STORAGE



Seagate Wireless Plus Macworld.co.uk review: bit.ly/YgKfqD ★★★★☆

Seagate, www.seagate.com gb/en/, £169

The Wireless Plus provides a ton of storage and easy accessibility for all our devices. It found a place in our reviewer's backpack next to their iPad – at least until the 1TB iPad eventually comes along.

Pros: Connects to WI-Fi Internet and can act as an intermediary Wi-Fi access point

Cons: Must connect via USB to computer to delete files; no battery level indicator on drive



Aegis Bio 3.0 Macworld.co.uk review: bit.ly/187Ckhi ★★★★☆

Apricorn, www.apricorn.com, from £201.80 (1TB)

The Aegis Bio really shines in the extra security and protection it provides for you and your data. The Aegis Bio is meant for users who want to make sure that their files remain secure, and are willing to pay for it.

Pros: USB 3.0 port; good overall performance

Cons: Biometric feature adds considerably to the price tag



MiniStation Thunderbolt SSD Macworld.co.uk review: bit.ly/XVUHig ★★★★☆

Buffalo Technology, www.buffalo-technology.com/en/, from £200

We might have expected an SSD drive to be a little more compact, but the MiniStation Thunderbolt is still portable enough to carry around with a laptop. It's reasonably priced for an SSD drive, and its strong performance makes it a good backup option for the latest MacBook models that come with their own SSD drives.

Pros: High-speed SSD drive with both Thunderbolt and USB 3.0 interfaces

Cons: Not much difference between USB 3.0 and Thunderbolt interfaces



Thunderbolt SSD Macworld.co.uk review: bit.ly/STInR1 ★★★★☆

Elgato, www.elgato.com, £239.95

The Thunderbolt SSD works well when handling larger file sizes, and its sturdy design will appeal to photographers working on outdoor shoots. However, its more modest performance with smaller file sizes suggests that it's not the best choice for general home or office use. Plus, there are some features missing for the price.

Pros: Strong performance with large file sizes; sturdy metal case; three-year warranty

Cons: Very expensive; Thunderbolt interface only; no status indicators



Rugged USB 3 Macworld.co.uk review: bit.ly/TDumpa ★★★★★ Macworld EDITORS' CHOICE

LaCie, www.lacie.com/uk, £169

Some might prefer the External SSD for convenience and portability. However, Verbatim's offering is slower than the Rugged drive and lacks the versatility of its twin interfaces. So if you want a sturdy SSD that's fast, affordable and can be used with non-Thunderbolt machines, then this is hard to beat.

Pros: Sturdy design; good performance; USB 3.0 and Thunderbolt interfaces

Buyers' Guide



Sketch 2

Macworld.co.uk review: bit.ly/10OuRDt ★★★★☆

Bohemian Coding, www.bohemiancoding.com, £34.99

Sketch belongs to an extremely small sub-set of vector drawing packages that are designed to export to bitmap. This best-of-both-worlds approach makes Sketch an effective tool for web graphics creation. It's also aimed at icon creators and application interface designers.

Pros: Simple but powerful drawing tools; CSS code output; save to bitmap or vector

Cons: Some eccentric workflow choices at export stage



NanoStudio

Macworld.co.uk review: bit.ly/153Mi3f ★★★★★

Macworld EDITORS' CHOICE

Blip Interactive, www.blipinteractive.co.uk, Free

NanoStudio is a bargain even at £9.99, so having it for free on your desktop is amazing. In terms of functionality, it's pitched somewhere between the synth emulation power of Propellerhead's Reason and GarageBand's limited simplicity.

Pros: Twin oscillator softsynth Eden with 128 presets; full mixing and sequencing capability

Cons: Some interface quirks



FotoMagico 4.2

Macworld.co.uk review: bit.ly/ZYTiXr ★★★★☆

Boinx, www.boinx.com, £65

PulpMotion Advanced 3 is slick, generally easy to use, and a great way of creating customised slideshows. Element editing is hidden away, but the use of Post-it notes helps show what functions are available. There are some imaginative options that will suit a commercial purpose, as well as family-friendly ones.

Pros: Easy to use; text guides very useful; kerning and baselines adjustments; choice of storyboard or timeline modes; lots of transitions; great range of output options; masks

Cons: Text lack accurate measuring; masks are fairly basic; adjusting masks uses specific and bizarre, pixel sizes; multiple stacked frames are awkward to edit and use



PulpMotion Advanced 3

Macworld.co.uk review: bit.ly/12Y8Pxl ★★★★☆

Aquafadas, www.aquafadas.com, £89.99

PulpMotion Advanced 3 is slick, generally easy to use, and a great way of creating customised slideshows. Element editing is hidden away, but the use of Post-it notes helps show what functions are available. There's some imaginative options that will suit a commercial purpose, as well as family-friendly ones.

Pros: Theme editor is nicely put together; interface is slick and friendly; lots of output options; the animations and themes look very modern rather than 90s-style transitions

Cons: Pro version is a little pricey; editing functions are rather hidden; the image filters aren't particularly good



QuarkXPress 9.5 with App Studio

Macworld.co.uk review: bit.ly/W3LcMP ★★★★☆

Quark, quark.co.uk, Free update; full price from £799

Though some refinement is still required, digital publishing with QuarkXPress is more streamlined in version 9.5 and improved by the new App Studio. As well as still providing a path for AVE and ePub publication workflows, it offers a fairly stable HTML5-based publication route, with an enhanced variety of interactive features.

Pros: Standard QuarkXPress workflow; synchronised items across layouts; enhanced interactivity with HTML5 palette; searchable/selectable text

Cons: Careful authoring needed for interactive behaviour in Apps; restrictions on fonts, some image, video formats; alternative testing workflow would be welcome



Vue 11 Infinite

Macworld.co.uk review: bit.ly/STcQgI ★★★★☆

E-on Software, www.e-onsoftware.com, €1,082 (£873) DVD, €1,022.42 (£825) download

It's sometimes difficult to justify a twice-yearly upgrade, so there's the temptation to hold off until a really big update comes along. Well, wait no more, as this is one of those times. All the tweaks, upgrades and new features combine to make this a fairly essential upgrade for Vue users.

Pros: New automatic weather effects; EcoParticles and Effectors; 360-degree EcoSystem population; customisable brushes; faster rendering

Cons: No visibility toggles for individual objects; not enough content supplied; glitches with EcoSystems; accurate placement of EcoSystems tricky; crashed a few times



Adobe Edge Animate 1.0

Macworld.co.uk review: bit.ly/Q59RSj ★★★★★

Macworld EDITORS' CHOICE

Adobe, www.adobe.com/uk, Free for a limited time

Edge Animate's workflow, particularly the Pin and Easing tools, as well as hidden gems like cut and paste functions, and live rendering of web pages in the Stage, make for effective HTML5 animation creation. However, there's no audio support and 'no-coding' designers July be put off by the use of Code pop-ups.

Pros: Free; interactive animated output supporting HTML, CSS and JavaScript; intuitive tools and workflow; TypeKit support; strong publishing and export options

Cons: No audio; some coding required for more sophisticated interactivity



Premiere Elements 11

Macworld.co.uk review: bit.ly/PSXfdC ★★★★★

Macworld EDITORS' CHOICE

Adobe, www.adobe.com/uk, £78.15

The main improvement in Premiere Elements 11 is the redesigned interface, which makes the program easier to use and will help to smooth the transition from iMovie. However, features such as Time Remapping also make it even more powerful, and a worthwhile upgrade for both experienced users and newcomers.

Pros: Redesigned interface provides greater ease of use; powerful Time Remapping tool

Cons: Poor manual and documentation; some features still complicated to learn



Maya 2013

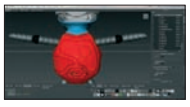
Macworld.co.uk review: bit.ly/ShG9pr ★★★★☆

Autodesk, www.autodesk.co.uk, £3,660 (boxed), £3507.50 (download)

There are lots of new features in Maya 2013. The nHair model, heat map skinning and bullet physics are the headliners here. Workflow has been tidied up and the new Node editor pulls a lot of functions into one logical place. If you want to work in visual effects, this release cements Maya's position as the number one ticket in town.

Pros: Improvements to workflow including HumanIK enhancements, heat map skinning, bullet physics and Trax Clip matching

Cons: Bugs; flaws in the modelling tools; cluttered viewport; steep learning curve; mental ray is awkward to use; camera issues; minor workflow irritations; no full screen



Mudbox 2013

Macworld.co.uk review: bit.ly/PmzeLc ★★★★☆

Autodesk, www.autodesk.co.uk, £870 (boxed), £833.75 (download)

If you use, Julya then it makes sense to go with Mudbox as a sculpting tool. The interface is similar and there's direct importing and exporting control. With the new Gigatexel engine able to deliver much more detail capability, it's a great choice for those involved in model texturing as well.

Pros: New Gigatexel engine; customise interface layouts; curve drawing; edge hardness and creasing supported; combine bump and normal maps; 64-bit on OS X; 3D layers

Cons: Some issues painting inside sculpts; brushes not as natural; doesn't support imported mirrored normal maps; can be fussy about working with some graphics cards

Star Ratings

www.macworld.co.uk/speedmark



Shine Macworld.co.uk review: bit.ly/12ckHH1 ★★★★☆

Ohanaware, ohanaware.com, £6.99

Some very creative and colour effects are possible, especially if you want more retro-looking images rather than ones just with rays over the top. As a standalone app, it comes up slightly short because of the lacking of layers and masking, but it is very cheap and it does produce some good results.

Pros: Mixes rays, lens flare and gradient tints to add sparkle or backlighting to dull image; lots of control over the effects; some post-production control; easy to use

Cons: Wastes screen space; lacks layers or masks; could do with presets and more controls for really funky retro images; rays can overwhelm the image; rays aren't really 3D



HDR Projects Platin Macworld.co.uk review: bit.ly/11GTKgN ★★★★☆

Franzis Verlag, www.hdr-projects.com, £129

Although it's a little on the pricey side, this is about as comprehensive a HDR app as you can get. The fact that it works on single or multiple images is a bonus, and there are presets to make it easy and lots of detail for those who like get their hands dirty. Highly recommended for those interested in HDR and tone-mapped images.

Pros: Combines multiple images or tone-maps single image; lots of presets for various styles; choices of algorithms and large amount of control over process and post-production

Cons: Interface is a little random; can be difficult to work out what filters to use; multiple image line-up could be a bit better



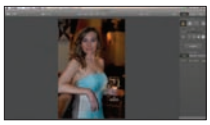
GIMP 2.8.3 Macworld.co.uk review: bit.ly/10Impue ★★★★☆

GIMP Team, www.gimp.org, Free

GIMP is much better now that it's running inside OS X without the need of X11, and it offers a wide range of features for the price (which is nothing). But there's no getting away from the fact that it falls short of Adobe Photoshop CS6, and isn't anywhere as near as slick as Pixelmator. Mind you: it's free.

Pros: Free; runs natively in Mac OS X; contains most of the feature set of Adobe Photoshop

Cons: A bit cranky; no built-in batch actions interface; doesn't save CMYK images



Snapheal 2.2 Macworld.co.uk review: bit.ly/Vr1r9g ★★★★☆

MacPhun, www.macphun.com, £5.99

Much better than the previous version, but still limited when faced with a large object or a complex background. If you can't afford Photoshop or Elements though, this is a very cheap method of basic image correction and improvement. The process does work quite well on small objects, and there's always the built-in Clone tool to fall back on.

Pros: Can mask areas for removal with brush or selection tool; local adjustments or global ones; very cheap system for image correction

Cons: Still not very quick; large objects produce less-satisfying results unless surrounded by complete uniform backgrounds



Color FX Pro Macworld.co.uk review: bit.ly/QdDgv3 ★★★★★

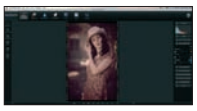
Macworld EDITORS' CHOICE

Kings Valley Tech, www.kingsvalleytech.com, £5.49

With a slick interface, Color FX Pro is a fast and fun way to apply retro effects to your photographs with quite some variation. Add borders, frames, filters, textures ,and more. The software also supports Raw files and up to 40-megapixel images.

Pros: Lots of effects; adjust the strength and fine adjust for varied effects; save combinations as presets, supports Raw files and up to 40-megapixel images

Cons: Needs to have more randomisation for frames and separate RGB colour controls; before and after preview is a separate screen; new presets are limited



Great Photo Pro Macworld.co.uk review: bit.ly/QHb1QK ★★★★★

Macworld EDITORS' CHOICE

EverImagining, www.everimaging.com, £6.99

If parts of Great Photo Pro look familiar, it's because some of the modules in it have been available as standalone apps. This brings everything together to offer an interesting tool kit without the effort of going into Photoshop. You're getting quite a lot for your money.

Pros: HDR image creation; retro styles; Raw photo processing; image correction; edit the colour styling; add vignettes; great value for money

Cons: File management is clumsy; mouse is too sensitive; there's no variation in the retro themes; the Big Aperture is a little hit and miss; adjustments are global



Photoshop Elements 11 Macworld.co.uk review: bit.ly/SJuEqK ★★★★☆

Adobe, www.adobe.com/uk, £81

Photoshop Elements 11's editing tools are much more advanced than those found in iPhoto, while the revamped interface is easier for new users to get to grips with. However, people who own a previous version of the software will find that there are few major new features that make this a 'must-have' upgrade.

Pros: Revamped interface provides improved ease of use for beginners; handy vignette effect

Cons: Few major new features for existing and advanced users



Flare 1.4 Macworld.co.uk review: bit.ly/Rnk39T ★★★★★

Macworld EDITORS' CHOICE

The Icon Factory, www.iconfactory.com, £6.99

Flare is an excellent tool for adding creative flare to any image, and is both simple and intuitive, making light and fun work of adding borders, frames, light leaks, textures and blur to your photos. The ability to fine-tune existing presets, and create and share new ones is a big plus too.

Pros: Quality effects; ability to tweak and create effects; high resolution output; support for Retina displays; simple and intuitive interface

Cons: Offers only basic range of photo-editing tools; free third-party presets still thin on the ground; no batch processing option



Photoshop Lightroom 4 Macworld.co.uk review: bit.ly/xxiuzT ★★★★☆

Adobe, www.adobe.com/uk, £103.88, £59.09 upgrade

Adobe Photoshop Lightroom 4 is worth the upgrade price for the Develop Module alone. The editing tools are more sophisticated than ever, yet often easier to use. Some of the big name additions are certainly welcome. But the essence of this new version is the improved ability to make your photos look as good as possible.

Pros: Develop module is better organised; added brushing tools; new video management tools; new Map module includes reverse geotagging; cheaper

Cons: Can't stitch video snippets together; No Mac Address Book integration for email



Color Efex Pro 4 Macworld.co.uk review: bit.ly/HV1hhU ★★★★★

Macworld EDITORS' CHOICE

Nik Software, www.niksoftware.com, £175

If you can only afford one plug-in filter, make it this one. Color Efex Pro 4 combines film stocks with fog and focus, split-screen colour effects, cross processing, grain, image borders, and more styles than London fashion week.

Pros: 34 names film stocks; vintage effects; Polaroid transfers; each option has a range of types; combine effects; 10 supplied recipes

Cons: Previews can be slow to generate; lacks distressing options; no older film processes

Buyers' Guide



Rosetta Stone TOTALe Macworld.co.uk review: bit.ly/15XgJsd ★★★★☆

Rosetta Stone, www.rosettastone.co.uk, £150

While there are other, cheaper options for learning a new language, TOTALe's immersive nature is impressive as is the range of languages on offer. The pricing is more than reasonable with the annual subscription costing less than a tutor once a month. Try the online demo for a taste of the course.

Pros: Intuitive to use; well-designed website; studio sessions with native speakers

Cons: Lack of translation is frustrating at times



aText Macworld.co.uk review: bit.ly/Y8iLBk ★★★★☆

Tran Ky Nam, www.trankynam.com, £2.99

A price of just £2.99 is a bargain for a piece of software that eliminate a lot of tedious and repetitious typing. It's simple enough for casual home users, but the ability to work with HTML and other types of code snippets gives it potential for professional users too.

Pros: Versatile text-expanding program; bargain price

Cons: Provides little help for first-time users



Moonfruit Standard Macworld.co.uk review: bit.ly/10f8jux ★★★★★

Macworld EDITORS' CHOICE

SiteMaker Software, www.moonfruit.com, £7.20 per month

Moonfruit is a polished, slick, web-design application, with nearly all the features you could need. It's well-designed and makes it easy to customise a template. All the key features are in place to create a modern-looking, full-featured site that's easy to edit.

Pros: Very well-designed; easy to select and customise a template; key features in place

Cons: Low storage allowance



1&1 MyWebsite Personal Macworld.co.uk review: bit.ly/XPG8OH ★★★★☆

1&1, www.1and1.co.uk, £6 per month, £72 per year

1&1 MyWebsite Personal is a decent tool for putting together a standard website. There are a lot of predefined templates, 300 to be precise, so finding something from which you can work is easy.

Pros: 300 templates; straightforward; automatic picture-size optimisation

Cons: Template categories are less than helpful



Audio Cleaner Pro Macworld.co.uk review: bit.ly/Zh51kG ★★★★☆

Magix, www.magix.com/gb, £49.99

If you want to clean up audio, Audio Cleaner Pro is certainly an accomplished option. It can read CDs directly – useful for old recordings, load audio files or record directly using the built-in mic. You can then edit and trim parts before adding noise reduction filters.

Pros: Slick look; easy to start editing and cleaning up; lots of control over cleaning filters; ability to enhance the sound before outputting

Cons: Built-in mic import is poor; editing adds actions without user control; scrubbing stops playback; some control is idiosyncratic



GameMaker Macworld.co.uk review: bit.ly/WFmEsu ★★★★☆

YoYo Games, store.yoyogames.com, £12.30

Game authoring's getting easier thanks to tools like GameMaker for Mac – a dedicated OS X games maker. Although it's not a direct port of the Windows tool, GameMaker: Studio, it's close enough for you to transfer skills. You can't transfer files from one to the other – or export to as many formats, though.

Pros: Great documentation and demos get you going quickly; free version to try before you buy; the price here is very right

Cons: Support for export is confined to OS X



Curio 8.3 Macworld.co.uk review: bit.ly/ZtDpcW ★★★★☆

Zengobi, www.zengobi.com, £72

Re-vamped, re-styled free-form project manager makes it easy to create and organise all manner of tasks, add and link to external information, define and prioritise deadlines and present the entire thing in an easy-to-navigate series of electronic whiteboards. Good exporting and powerful search features too.

Pros: Rich set of features, easy to add external material, good export options, iCal integration, flexible interface suits a wide range of different tasks and projects, new lower price

Cons: Curio's structure means it can't support a Replace feature; synchronising Styles via Dropbox isn't for fainthearted; selecting multiple items in a list is a bit cumbersome



FileMaker Pro 12 Macworld.co.uk review: bit.ly/HJDqjC ★★★★★

Macworld EDITORS' CHOICE

FileMaker, www.filemaker.co.uk, £131

With the new version of its entire FileMaker product line, FileMaker extends its dominance of the Mac OD and iOS database world by offering improvements that will be valued by every type of FileMaker user.

Pros: Strong asset management features; enhanced Container fields; powerful designer toolset; no change to price

Cons: File format change and associated upgrade costs



Mellel 3.0 Macworld.co.uk review: bit.ly/MudcIK ★★★★☆

Redlex, www.redlers.com, £27.49

Mellel won't really be able to replace Word or Pages as your main word processor. However, academic or technical users July find it useful to own a copy in addition to Word or Pages, so that they can use it for longer documents that will benefit from its cross-referencing and bibliography tools.

Pros: Powerful cross-referencing and bibliography tools for academic users

Cons: Limited compatibility with Microsoft Word



Business Accountz Macworld.co.uk review: bit.ly/IDpGLF ★★★★★

Macworld EDITORS' CHOICE

Accountz, www.accountz.com, Basic £99, Professional £279, Enterprise £468

With the Eazy Button, Business Accountz is now the most straightforward way to manage your money. It's multi-platform; support is free and reports are in a format your accountant will understand.

Pros: Eazy button simplifies everything; full featured; self submit your VAT return

Cons: Links to a third-party Payroll service rather than having an integrated offering

Star Ratings

www.macworld.co.uk/speedmark



Extensis Portfolio Server 11.0.1 Macworld.co.uk review: bit.ly/17St9hH ★★★★★ Macworld EDITORS' CHOICE

Extensis, www.extensis.com, Studio £1,798, POA for Professional and Enterprise editions

Portfolio Server effortlessly handles media management, and support for more file types and client customisation is welcome. Flash is required for all Client and Server Web browsers, so may restrict your Client base. The Studio version has a one catalogue/three-user restriction.

Pros: Rapid and effective cataloguing of growing range of assets; more user customisation; AutoSync folders; enhanced keywording and metadata features

Cons: Flash-based web clients restricts some use; Studio version is limited to one catalogue and three users



Email Pro for Gmail Mac app Macworld.co.uk review: bit.ly/VFtbY0 ★★★★☆

iLife Technology, www.facebook.com/ilifetechnologies, £1.29

The only clunky thing about Email Pro for Gmail 2.1 is its name. This slender app provides a convenient way to get to your Gmail messages directly from your desktop. It isn't flawless, but its solid interface and useful display-as-desktop feature makes it worth a look if you're a Gmail user.

Pros: Slender; convenient

Cons: Couldn't get mobile sketching feature to work



ZipCloud Macworld.co.uk review: bit.ly/ZtGM3M ★★★★☆

ZipCloud, www.zipcloud.com, from £4.95

Despite some initial frustrations with annoying bugs, ZipCloud makes light work of backing up, sharing and retrieving your files either automatically or manually. The promise of unlimited data backup, at a reasonable price, is also appealing, one that should ensure all your files are safe from harm and accessible anywhere.

Pros: Amazon S3 storage integration; ability to restore files from the cloud; unlimited data backup; flexible data plans; dedicated iOS app; ability to share files; free 14-day trial

Cons: Bugs during trial period; Documents Folder back-up by default is not ideal; concerns over dubious terms and conditions



MacCleanse 3 Macworld.co.uk review: bit.ly/ZPz6bl ★★★★★ Macworld EDITORS' CHOICE

Koingo Software, www.koingosw.com, £13.99

Removing apps, duplicate files and unwanted logs from your Mac is much easier with dedicated clean-up tool MacCleanse. It's such a feature packed piece of kit that the price tag comes as a bit of a shock. At £13.99, it's comparable to apps that do a fraction of that.

Pros: Beats competition on both budget and features

Cons: Support for some tools you'll never use



MacPilot 5 Macworld.co.uk review: bit.ly/TVsPeK ★★★★★ Macworld EDITORS' CHOICE

Koingo Software, www.koingosw.com, £13.99

When System Preferences doesn't give you enough control over your Mac's settings, turn to MacPilot 5. If you can afford the £13.99 that MacPilot currently costs, you'll get much more control over your Mac.

Pros: Gives you control over preferences usually accessed via the Terminal

Cons: Lots of features you'll never need



Cloudmark DesktopOne Macworld.co.uk review: bit.ly/10tGYoN ★★★★★ Macworld EDITORS' CHOICE

Cloudmark, www.cloudmark.com, Free

With DesktopOne you can as good as say goodbye to spam – and at zero cost if Basic mode is adequate for your uses. Once installed, it's completely transparent, aside from increasing the file count in your Spam folder. Our reviewer couldn't remember the last time they gave a product five stars, but this deserves them.

Pros: Basic mode (suitable for most users) is free; no setting up; integration with two main email apps; totally transparent in use

Cons: None



Norton AntiVirus 12 for Mac Macworld.co.uk review: bit.ly/ST7D8X ★★★★☆

Symantec, www.symantec.com/en/uk, £39.99

Will so little Mac malware, the problem Symantec will face is convincing people to part with £39.99 (followed by £24.99 per year), especially when there are a number of free, less polished alternatives. If you do want NAV protection, for an extra tenner you might be better buying Norton Internet Security 5 for Mac.

Pros: Easy to install and use; slick user interface; automatic updating

Cons: No firewall; functionally similar to free alternatives



SyncMate Expert Macworld.co.uk review: bit.ly/HXgLBU ★★★★★ Macworld EDITORS' CHOICE

Eltima, mac.eltima.com, $39.95 (£25)

Lion has brought us iCloud, but does your Mac's data still feel trapped? Apple's improvements make transferring images and music between devices easy, but it's difficult to sync data with other devices and services. So, lets raise a glass to SyncMate – a tool that works around Apple's efforts to hold data hostage.

Pros: Supports multiple device platforms; frees data including images and tunes

Cons: Default licence is only for two Macs



Desktop 8 Macworld.co.uk review: bit.ly/VoCSZF ★★★★★ Macworld EDITORS' CHOICE

Parallels, www.parallels.com/uk, £64.99, £34.99 upgrade

Although it's more expensive than Fusion 5, Desktop 8 has an edge in 3D performance and in the way it integrates Windows programs into the Mac operating system, so people who need to use Windows software on a regular basis will find that it's well worth that little bit extra.

Pros: Improved performance and ever-tighter integration with the Mac OS

Cons: More expensive than Fusion



Fusion 5 Macworld.co.uk review: bit.ly/QAKsfa ★★★★★ Macworld EDITORS' CHOICE

VMware, www.vmware.com/uk, £39.99

When it comes to the basic task of running Windows on a Mac, then Fusion 5 still performs very well and is easy to use. And, at just £39.99, it's also the more affordable option than Parallels (above) for people who only need to use Windows software every now and then.

Pros: Good performance for routine computing tasks with Windows software; cheaper than Parallels Desktop

Cons: Gaming performance could still be improved





Apple: blue is the colour

From Bondi to Indigo – the true blue history of Apple

Microsoft is updating its radical new-look Windows 8 operating system with something called Windows Blue. Copycats again! Twenty five years ago Apple planned to upgrade its Mac OS with something known as Blue.

Technical managers met and sketched ideas for the new OS on index cards. Simple, short-term features went on blue cards; longer-term goals on pinks cards; and crazy, way-out ideas on red. Pink and red faded away, while Blue became the incredibly successful System 7 in 1991. Go Blue team!

Blue, or cyan as designers like to call it, is a funny old colour. In medieval art blue was more valuable than gold as you needed expensive lapis lazuli from Afghanistan to make the best pigment. That's why the Virgin Mary is clothed in blue, while lesser holy figures merely stand around with gilded haloes.

There aren't many blue animals – exotic fish and poison dart frogs aside – and blue food is often shunned. There was even a rumour that blue Smarties (or rather their E133 colouring) triggered hyperactivity in children.

Apple has always had a soft spot for blue. It's the most popular desktop wallpaper hue (since System 7) and is the natural skin tone of the Happy Mac logo. Indeed, it was the base strip in the old multicoloured Apple logo.

A very blue (sad) decade after team Blue's OS, Apple re-revolutionised the home computer with 1998's bubble-shaped iMac. It chose Bondi Blue as the original iMac translucent case colour – named after the cool water at Sydney, Australia's Bondi Beach. Bondi Blue was really a blue-green, but later iMacs came in Blueberry and Indigo, as well as the freaky Blue Dalmatian case.



The iMac was the first Mac to boast wireless Bluetooth technology – named after King Harald I of Denmark. The Bluetooth logo is a bind rune merging Harald's initials.

Apple's love of blue is strange as at the start of its life the company defined itself by its aggressively snarky opposition to tech colossus IBM, nicknamed Big Blue. Relations with Big Blue thawed later when it partnered with IBM on several projects (Taligent) and switched to its PowerPC processors.

The iMac wasn't the only Apple product to be blue. The first clamshell iBooks included a Blueberry model; later, like the iMac, darkened to Indigo. The Power Mac G3 was the first professional Mac to use colour polycarbonate, and was even dubbed the "Blue & White" Power Mac. Various iPod models have also sported a range of blue tints.

> The super-expandable Macintosh II came in a beige case the size of a Christmas hamper



It's a little known fact that Apple once considered sponsoring Chelsea Football Club ("The Blues"), but the price of printing its then-multicoloured logo on team and replica shirts would have made even Roman Abramovich flinch.

On his return to Apple in 1997 co-founder Steve Jobs wore to work a uniform of mid-blue Levi 501s – buttoned but never belted – and trademark Issey Miyake black turtleneck. He nearly always wore this casual outfit when launching products at keynotes – usually against a giant dark blue screen. At such events he would unveil Apple's latest innovative products – the results of his Think Different approach where blue-sky thinking was the Apple credo.

Steve would dream up these fantastic products with a small team of confidants, including British designer Jony Ive. Ive was rewarded for his Apple designs with a 2012 knighthood from the Queen, and more impressively a coveted 2013 *Blue Peter* badge from the popular BBC kids' TV show. His *Blue Peter* badge was sadly gold – a colour not much in favour at Apple or, I presume, in the Ive Pantone swatch book. These days Ive prefers silver grey metals.

One silver grey metal that has bumped into Apple is cobalt, used as a blue pigment in paint and glass. Cobalt is also used in the flat batteries that power iPads and iPhones, and the popularity of these Apple devices has affected the price of cobalt according to calculator-bashing chemistry professors.

So blame the premium prices we pay for Apple devices on Apple's love affair with all things blue. Let's see if Windows Blue catches up with Apple's System 7.

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